COMMERCE AMERICA
FORMERLY COMMERCE TODAY
U.S. Department of Commerce / February 16, 1976

ELLIOT RICHARDSON BECOMES THE 24TH SECRETARY OF COMMERCE

Newsmemo

The mix of franchising firms is changing, but their total sales continue to grow. In 1975 such sales rose by 8 percent to $179 billion from a number of firms that held steady at about 440,000. There was a continued decrease in the traditional types of franchising establishments, such as auto or truck dealers, gas service stations (6,650 were closed), and soft drink bottlers. But this was offset by a rise in the newer types: fast foods, convenience stores, business services, hotels and motels. Fast foods showed an 8 percent rise in numbers, 11 percent in sales.

U.S. oilfield rigs are drilling away at the fastest pace in 13 years. Total number of rigs operating in December was 1,800, a figure that has not been matched since January 1962. States with the greatest activity are Texas, Louisiana, Oklahoma, California and Wyoming, which accounted for three-fourths of the total. Less than 10 percent, or 171 units, were drilling in inland or offshore waters. The high level of drilling is attributed largely to the high price of new oil.

Chemical products now can be bought and sold through a commodity exchange. The American Chemical Exchange is operating through a central computer network, with bids and offers on 50-100 commodity chemicals processed on an anonymous basis. The service is initially being restricted to current transactions, with no trading in futures. The Exchange is expected to provide a means of setting current market values for spot quantities of chemical products, indicate trends in market prices, and be a mechanism for reduction of excessive product inventories without dumping at distress prices.

A second generation of trash compactors has appeared. In 1974, five years after compactors were introduced, sales reached 476,800 units, then slid off in 1975. But by 1978 projected annual sales will be near one million. The reason for such anticipated growth is improvement in design. One new model has a drain, to accommodate wet food waste, plus an electronic air purifier to eliminate residual odors. Another replaces the drawer element with a spring-loaded door for easier access. These units also offer faster or more powerful compaction.

Increased machine tool output in 1975 placed the U.S. atop the world for the first time since 1970. The American total had been below that of Germany for the four preceding years, and, except for 1974, less than the Soviet total. World machine tool production in 1975 rose 2.7 percent to $13 billion, according to a recent McGraw-Hill annual survey. The U.S. produced over $2.4 billion worth, or about 19 percent of world output. In consumption the U.S. and USSR were at $2.28 billion each, considerably above Japan, Germany and Poland.

Another look is being taken at the difficult challenge of recycling plastics. Higher plastics prices and potential feedstock shortages are the stimuli for this effort. A 1972 study by the Society of the Plastics Industry came to the conclusion that recovery of energy by incineration was the only practical benefit that municipal solid waste plants could derive from handling household throwaway plastics. The Society is funding a new study, being carried out by the National Center for Resource Recovery in Washington, that will use the best equipment ever assembled to recycle municipal wastes.

New bicycle safety standards come into effect this year. The regulations of the Consumer Product Safety Commission establish standards for the manufacture of brakes, pedals, wheels, frames and reflectors. They will add an estimated $1-10 to the retail price of a bicycle. Unit sales of bicycles in 1975 were 5.4 million domestic and 1.8 million imports, a 50 percent decrease from 1974. Industry projections for 1976 are for an increase of about 35 percent in unit sales.

If the Western Rule becomes the universal rule, important gasoline savings will follow. The Western Rule permits right turns on red lights, cutting down fuel consumption by vehicles idling at light-controlled intersections. Virginia has estimated that 5.1 million gallons of gas can be saved per year by allowing "right on red" at 80 percent of its intersections. A national highway users federation, using this figure, estimates national savings of 50 million gallons if 21 states and the District of Columbia join the 29 now driving by the Western Rule.

COMMERCE AMERICA

FORMERLY COMMERCE TODAY

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COVER: Elliot L. Richardson was sworn in as Secretary of Commerce at the White House February 2 by Chief Justice Warren E. Burger in the presence of President Ford and Mrs. Richardson. For an idea of how he perceives his new appointment, see story beginning on page 4.

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ECONOMIC HIGHLIGHTS

Changes In Leading And Coincident Indicators Vs. Changes In GNP

Economic Highlights is prepared by Maynard Comiez, Acting Chief Economist.

The Composite Index of Leading Indicators can be a useful analytical tool, especially in gauging economic performance a few months into the future. But its limitations must be carefully considered, and it should be examined in the perspective of other economic information.

Major statistical and conceptual revisions of both the leading and coincident indexes were completed last year. Furthermore, a large-scale revision of historic Gross National Product data was announced last month. Real GNP is a major indicator of current economic performance and is frequently used in analysis, although it should be noted that no single series provides a comprehensive picture of the economy. Therefore, it is appropriate to examine the relationships among these series.

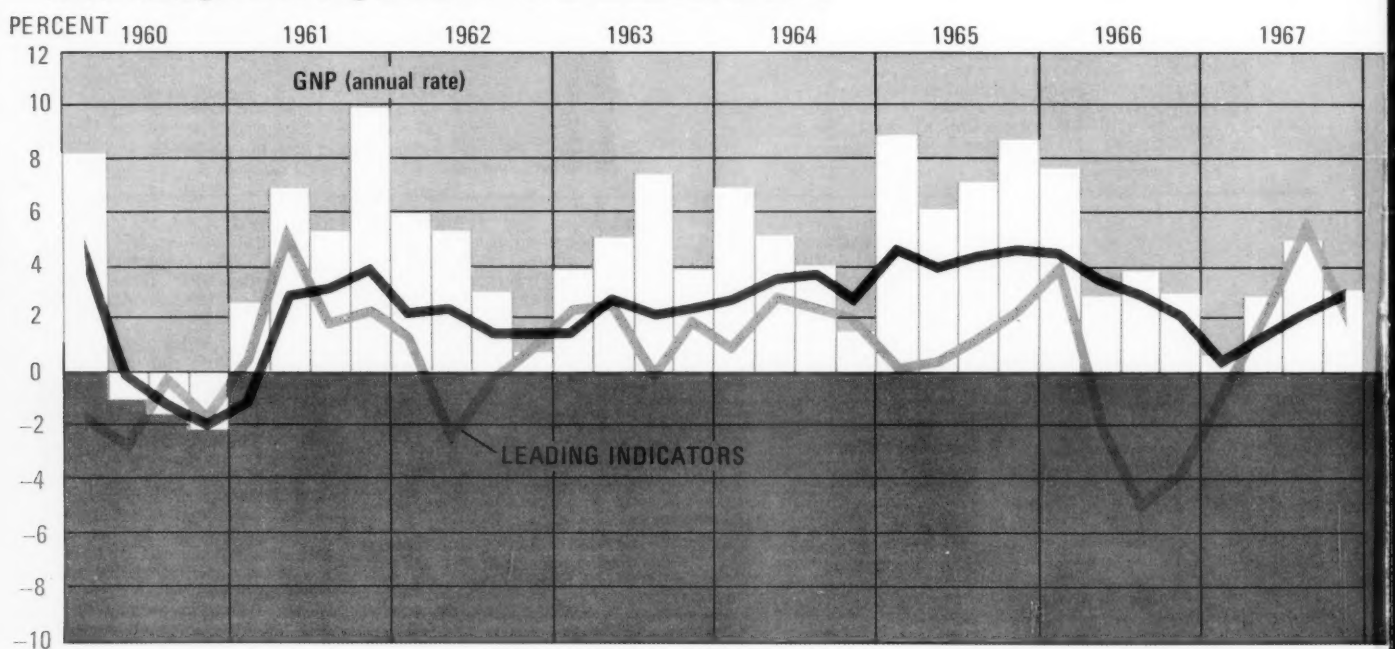
Of the 12 leading indicators included in the composite index, several series represent goods and services that ultimately become components of real GNP. These include new orders for consumer products and materials, contracts and orders for plant and equipment, housing permits, and the change in inventories on hand and on order. The new composite index of coincident indicators consists of four series: nonagricultural payroll employment, industrial production, deflated personal income minus transfer payments, and deflated manufacturing and trade sales. A major portion of real GNP is derived from these series.

Monthly movements in each of the composite indexes frequently are erratic, particularly in the case of the leading indicators. Analysts tend to interpret the leading indicators according to the magnitude and direction of change over a period of at least three months. The chart depicts quarterly percent changes in the composite indexes (not at annual rates) together with quarterly changes in real GNP (at annual rates).

A statistical analysis of the data reveals the following relationships:

- Both the leading and coincident indexes vary more in percent terms than real GNP. Changes in the composite indexes, expressed as annual rates, almost always exceed the changes in real GNP.
- The change in the coincident indicators correlates best with the change in real GNP of the same quarter. A statistical test covering the period, 1948 to 1975, shows that more than two-thirds of a given quarterly change in real GNP is explained by the coterminous change in the coincident indicators.
- On the average, changes in the leading indicators precede changes in the coincident indicators by about one quarter. (The "lead time" of the composite index of leading indicators tends

Percent Changes in Leading and Coincident Indicators and Real GNP



Source: U.S. Department of Commerce, B.E.A.

to be longer at peaks of the general business cycle than at troughs.) Statistically, about half of a given quarterly change in the coincident indicators is explained by the previous quarterly change in the leading indicators.

- Changes in the leading indicators tend to precede changes in real GNP by about one quarter. Two fifths of the quarterly variation in real GNP growth is explained by the change in the leading indicators during the preceding quarter. The change in the leaders one quarter ago, combined with the change in the current quarter, explains almost half the historical variance in real GNP of the current quarter.

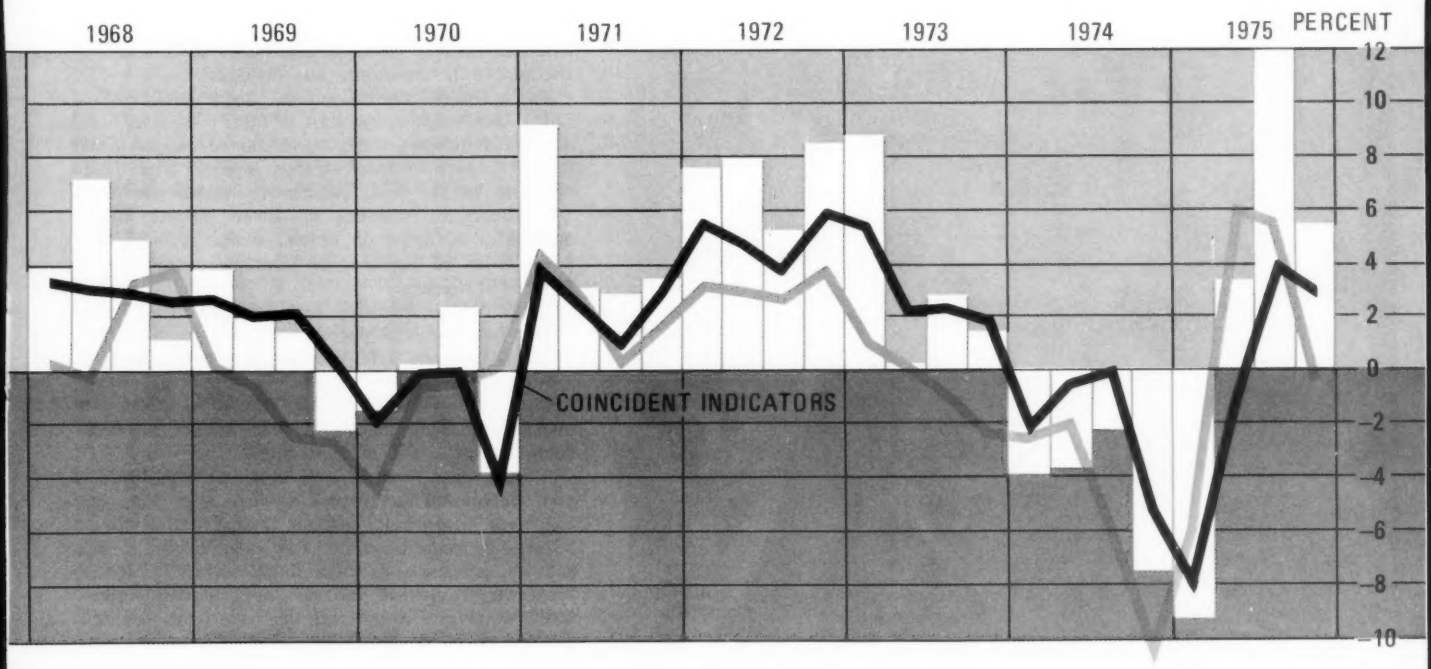
- A decline in the leading indicators—even for two or three consecutive quarters—does not necessarily imply an impending recession, although it tends to signal a temporary slowdown in the growth of real GNP. There have been nine periods since World War II in which the leading indicators declined for at least two consecutive quarters, but only six of those periods were associated with recessions. The most misleading signal of the leading indicators was a five-quarter decline beginning in late 1950 (not shown on the chart). No recession occurred, although the pace of economic expansion moderated significantly in late 1951 and early 1952. Similarly, the leaders declined for four consecutive quarters beginning in the spring of 1966, but the worst that happened was a virtual leveling of real GNP during early 1967. (In both cases the economy was stimulated by war-time activity—the Korean War in the early 1950s and Vietnam in the late 1960s.) In the second and third quarters of 1962 declines in the leaders were followed by slowdowns in the growth of real GNP during the third and fourth quarters of that year—not by a recession. It should be recognized, of course, that an adverse signal from the leaders may induce stimulative public policies to counteract tendencies toward recession.

- The composite index of leading indicators can be of some help in gauging the likely range of growth in real GNP one year ahead, but the change in the leaders must be considered over a broad span. (For a discussion of this point, see Geoffrey Moore, "Forecasting Short-term Economic Change," *Journal of the American Statistical Association*, March 1969.) A statistical test for the period, 1949 to 1975, shows that about three-fifths of the change in real GNP for a calendar year is explained by the change in the leading indicators from the first half to the second half of the preceding year. The equation developed in this analysis has a standard error of 1.86 percentage points, which means that in two out of three cases the actual change in real GNP will equal the predicted change in GNP, plus or minus one standard error. Statistically, this is a relatively large error for the purpose of forecasting the change in real GNP one year ahead. The 6.7 percent gain in real GNP for 1976, as shown in the table, is not a forecast. Rather, it is a statistical projection, reflecting the sharp rebound in the leading indicators between the first and second hall of 1975. ☆

Percent Change In Real GNP

Year	Predicted*	Actual	Predicted less Actual
1949	1.2%	0.6%	0.6%
1950	5.3	8.7	−3.4
1951	5.3	8.1	−2.8
1952	1.6	3.8	−2.2
1953	4.6	3.9	0.7
1954	0.3	−1.3	1.6
1955	6.2	6.7	−0.5
1956	4.1	2.1	2.0
1957	2.2	1.8	0.4
1958	1.0	−0.2	1.2
1959	7.9	6.0	1.9
1960	1.8	2.3	−0.5
1961	2.3	2.5	−0.2
1962	5.5	5.8	−0.3
1963	2.7	4.0	−1.3
1964	4.0	5.3	−1.3
1965	5.1	5.9	−0.8
1966	4.2	6.0	−1.8
1967	0	2.7	−2.7
1968	6.3	4.4	1.9
1969	5.2	2.6	2.6
1970	1.5	−0.3	1.8
1971	2.9	3.0	−0.1
1972	4.1	5.7	−1.6
1973	5.7	5.3	0.4
1974	2.4	−1.8	4.2
1975	−1.8	−2.0	0.2
1976	6.7		

* Based on equation where the percent change in the leading indicators from the first half to the second half of the previous year is the independent variable.



'PRIVATE GROWTH

(Shortly after being sworn in as the Secretary of Commerce, Elliot L. Richardson summarized his views of the job in an appearance before the Joint Economic Committee of the Congress)

The problem areas on which I will focus—problems we face today and which, if not carefully attended, pose a serious threat to the long-term future of the economy—are: (1) inflation; (2) unemployment; (3) economic growth; and (4) the relationship between government and the private sector. Obviously, all of these are inextricably interrelated—and ultimately related to our standard of living, our role in the world, and our most precious liberties.

Inflation is the most corrosive of diseases. It is also the most insidious in that, in its early stages, it appears to be benign. The illusion is fostered that everything is getting bigger and better, that the country and the people are prospering more than ever.

As we have learned to our sorrow, however—or should have learned—inflation is a malignancy that will feed upon itself and the economy to grow ever larger unless we stop it.

Worst of all, the erosion of purchasing power that is virtually inevitable with inflation is the cruelest and most repressive hidden tax of all. While it eats away at the well-being of all segments of society, it strikes hardest and most harshly at those with the least resistance, those who are already disadvantaged: the poor, those in the middle-income range, and the aged.

For example, recent surveys by the Bureau of Labor Statistics show that a family of four with moderate income of $8,000-10,000—a category not likely to receive food stamps—spends more than one-fifth of its total before-tax income on food. The share for families of lower income is undoubtedly as large or larger. From 1970-75, food prices rose 53 percent, an average of more than 10 percent a year.

Other above-average price rises during that period include a 56 percent increase in home fuel and utilities, and a 60 percent rise in gasoline and motor oil.

These price increases, like those for food, are disproportionately heavy burdens on the lower-income groups.

While many middle- and upper-income families and individuals have some savings that they can fall back on to help cushion their inflation-eroded purchasing power, most of the lower-income groups and the aged do not have that flexibility. Clearly, those people whose incomes are relatively fixed, those who have no savings, or those whose meager savings are primarily in monetary assets have lost substantially because of the magnitude of inflation during the past few years.

It is therefore vital that policies aimed at eco-

IS THE ONLY REAL GROWTH'

—Richardson

nomic stabilization be judiciously evaluated in order to avoid any potential inflationary impact. In seeking to reduce unemployment, for example, I concur with the Chairman of the Council of Economic Advisers that it must be lowered "as rapidly as is consistent with the need to ensure that the reductions will be lasting." What will we have really gained if, by taking strong measures to force unemployment down rapidly, we merely invite worse inflation and greater hardship for the longer term?

Thus, our major contribution to improving the situation of those most brutally oppressed by inflation is to control inflation, rather than try to compensate for it by increased federal expenditures. Federal spending has its place, to be sure, but that place is as a secondary line of defense.

To recognize this problem and its ramifications is to recognize that careful planning, a deceleration in the growth of federal spending and the avoidance of the waste and excesses that aggravate inflation are essential. This is not to say that federal spending should decline, but—as the President has pointed out—that its rate of growth must be lowered.

The more so, I would say, because in addition to its very direct and easily observable effects, the erosion of purchasing power by inflation destabilizes the economy, aborting recovery and creating recession. These effects arise from a dampening of consumer confidence; discouragement of personal consumption; and a distortion of inventory decisions taken by business.

Persistent and erratic inflation, further, creates a climate of uncertainty that discourages long-term investment. That, in turn, adversely affects the economic growth rate, the nation's productive potential, the employment level and the creation of jobs.

From whatever perspective one views inflation, then, no redeeming features are to be found. Any postulated solution to our problems that is likely to lead to a resurgence of inflation as a by-product is no solution at all; it will almost certainly make matters worse.

The dominant objective to be pursued is the long-term healthy growth of the American economy. Thus, the President's key economic goal is to create an economic environment in which sustainable, noninflationary growth can be achieved.

Unemployment

Unemployment and inflation are not opposites, to be traded off one against the other. They are related symptoms of an unhealthy economy. The inefficient use of physical resources is a waste; the underutilization of human resources is a tragic waste. It carries an unacceptably high social cost above and beyond the economic cost of unproduced goods and services.

We have seen how sharply rising prices, in recent years, brought about a climate of uncertainty and contributed to a sharp reduction in the purchasing power of household assets in savings accounts and securities. Consumers, in turn, cut back on expenditures, and already swollen inventories backed up in distribution channels. High interest rates, reflecting inflation premiums, discouraged business investment and housing. By early 1975, the result was a sharp cutback in production and employment.

Since inflation, then, was a major underlying cause of the recession and the consequent unemployment, any policy that seeks to reduce unemployment at the price of more inflation is doomed from the start. Like inflation itself, such stimulation may appear attractive at first—but too soon it succeeds only in defeating its own well-intentioned purpose.

The proper course is to encourage the investment that is a necessary precondition to the creation of jobs. Only thus can we help to control inflation, and provide job opportunities—meaningful, productive and lasting jobs—for the millions now looking for employment, and the millions who will be seeking admission to the labor force in the years ahead.

As for myself, no one can spend as many years as I did at HEW without being reinforced in a natural sensitivity to the emptiness and despair that attach to being disadvantaged.

But I must repeat, in all conscience and sincerity: creating jobs with public funds—except as a last resort in extreme crisis—is, like inflation itself, a snare and a delusion. It will not solve a fundamental problem; it will merely displace it in time. The reckoning will come soon enough, as it did in 1974, and we will all, inevitably, be worse off. And the very worst off, as always, will be those who need assistance the most—and whom artificial job creation was intended to help.

Economic growth

The primary goal, to reiterate, is long-term economic growth. Steady, healthy and, above all, sustained. That is the kind of growth that provides the material products and services to satisfy the needs and wants of society—and the conditions under which the labor force can be as fully employed as possible in productive endeavors.

Steady and sustained economic growth will provide the proper climate for adequate investment. Increased investment in plant and equipment is critical from both the short-term and long-term viewpoints.

It is a prime element of a satisfactory and durable economic recovery. And over the longer run, it builds the foundation for a rise in real wages and higher standards of living.

In this connection, a recent study of capital

Inflation is the most corrosive of diseases. It is also the most insidious in that in its early stages, it appears to be benign. The illusion is fostered that everything is getting bigger and better, that the country and the people are prospering more than ever.

Thus, our major contribution to improving the situation of those most brutually oppressed by inflation is to control inflation, rather than attempting to compensate for it through increased federal expenditures.

requirements of the U.S. economy was undertaken by the Commerce Department's Bureau of Economic Analysis at the request of the Council of Economic Advisers. The study was to estimate the cumulative amount of business investment in fixed non-residential capital that would be required during the period 1971-80 in order to assure a 1980 capital stock sufficient to meet the needs of a full-employment economy, as well as the requirements for pollution abatement and for decreasing dependence on foreign sources of petroleum.

Unemployment and inflation are not opposites, to be traded off one against the other. They are related symptoms of an unhealthy economy. The inefficient use of physical resources is a waste; the underutilization of human resources is a **tragic** waste.

The major finding of the study was that in order to assure a 1980 capital stock sufficient to achieve these goals—which admittedly may be difficult to do by 1980—private fixed investment during the period 1971-80 will need to be 11.4 percent of gross national product.

This percentage is considerably higher than the 10.4 percent characteristic of the 1965-70 period and the 10.2 percent of the 1971-74 period. Moreover, given the low level of investment during 1971-74, for the remaining six years, 1975-80, fixed capital investment must total 12 percent of cumulative GNP.

Furthermore, since investment was less than 10 percent of GNP in 1975 and is not expected to be 10 percent this year, the study results suggest that the investment ratio will have to be greater than 12 percent in the next four years to satisfy the goals previously mentioned.

The study found that these requirements for an increased share of GNP devoted to investment are associated with three factors:

a. Changing technology in selected industries where the capital/output ratios have been increasing. This is the major cause of the need for an increased share of GNP devoted to fixed investment.

b. Increased needs for capital investment as a result of the energy situation.

c. Investment in pollution abatement equipment as a consequence of legislation relating to clean air and clean water.

If it were not for these factors, the 1971-80 cumulative investment needs would require only 9.9 percent of GNP.

Given these findings, it follows that if this country is to achieve the goals set forth, economic policies should be directed toward the assurance that there will be adequate investment to support a high-employment economy without weakening consumer demand. The President's program to increase private-sector activity relative to government spending is, in my view, the only realistic means of achieving this goal.

There is always a fulcrum, a point of balance. Surely we should be able to strike that reasonable balance between the tenets of free enterprise and our responsibility to protect the interests of the people—as citizens and as consumers.

Public-private roles

Both in our democracy and our economy—two sides of the same coin—we have always emphasized individual decision and choice. I believe it essential not to deviate from the course that has made the United States uniquely the kind of country it is.

Obviously, the government must have a role—as where social costs and benefits, for example, are not translatable through the private market mechanism. In addition to its overall economic stabilization role, it also bears the responsibility for maintaining competitive market conditions.

On the other hand, it has grown increasingly apparent that a more reasonable approach to government regulation is necessary. In addition to deregulation, or modified regulation, of major economic areas—transportation, for example—there is also a clear tradeoff in such areas as occupational safety and environmental standards: as between productivity and profitability, on the one hand, and social benefits, on the other.

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International conditions

U.S. trade performance was exceedingly strong in 1975, with a record surplus by whatever measure is employed. As the United States and other nations recover from the global recession, this large surplus can be expected to diminish. The extent of the reduction will depend upon such factors as: the U.S. rate of recovery versus the speed of the recovery in other countries; the performance of the lesser-developed countries in their development process; price and productivity changes; and the overall competitiveness of American goods in international markets.

Over the long perspective, U.S. producers need to remain highly competitive in the international area. The ability to sell American products in the world market enables this country to purchase other items from abroad which it cannot produce as efficiently. Our policies must therefore enable the United States to continue to enter freely into world trade.

The floating exchange rate system has afforded vital flexibility in dealing with the upheavals of the recent past. However, U.S. trade can benefit from less erratic fluctuations in world currencies. The recent International Monetary Fund agreement is a step in this direction, as well as helping the developing nations with their reserve problems.

We must continue to deal with the real dimensions of international trade. It is essential to maintain the momentum in removing tariff and nontariff barriers to trade in the new round of Multilateral Trade Negotiations, with the goal of reaching a successful conclusion to these negotiations in 1977. Similarly, it is essential that a multinational cooperative approach to solving the energy problem be pursued.

I have a deep conviction that the sweeping social goals and visions of the 1960s were not only compassionate and just, but necessary.

By all means, let us adhere strongly to those goals and visions. But let us do so from the firm foundation of a healthy free-market, free-enterprise, private-sector system. Let us create and increase real wealth through that system, so that everyone is afforded the opportunity to share in that wealth on a more equitable basis than we have yet achieved.

The proper role of government is to create and nurture the climate and the environment within which private free enterprise can achieve its maximum productivity and efficiency.

The President, in my opinion, has done what conscientious medical doctors almost invariably do: he has prescribed a conservative regimen to continue the healing process that has already gotten under way. ☆

Do's & Dont's Of EQUAL EMPLOYMENT Legislation

There appears to be growing confusion within the business community about how strong a part the Federal Government can play in determining whom employers must hire and fire. Much of this concern is based on misunderstanding of the intention of equal employment legislation.

At no point does legislation require an employer to hire a less-than-competent applicant because she is a women or because he or she is a member of a minority group.

For instance, if you are an employer, you do not have to:

- Pay all employees the same amount even though some are twice as productive as others.
- Avoid giving tests that truly indicate an applicant's ability to do the job.
- Hire a social worker of a different religion, for example, if you run a religious-affiliated social service bureau and are concerned that the counseling reflect the views of the sponsoring sect.

Title VII of the Civil Rights Act of 1964, as amended, simply prohibits job discrimination because of race, color, religion, sex or national origin. It established the Equal Employment Opportunity Commission, an independent, bipartisan agency composed of five members appointed by the President and approved by the Senate.

The Commission is concerned with discrimination by:

—public and private employers of 15 or more employees,

—public and private employment agencies,

—labor unions with 15 or more members,

—joint labor-management apprenticeship programs and

—educational institutions.

After listing the practices that are judged discriminatory, Title VII goes on to state that it is not unlawful for an employer to hire an individual "on the basis of religion, sex, or national origin in those certain instances where religion, sex, or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of that particular business or enterprise."

Furthermore, according to the Act, "it shall not be an unlawful employment practice for an employer to apply different standards of compensation, or different terms, conditions, or privileges of employment pursuant to a bona fide seniority or merit system, or a system which measures earnings by quantity or quality of production or to employees who work in different locations, provided that such differences are not the result of an intention to discriminate because of race, color, religion, sex, or national origin, nor . . . to give and to act upon the results of any professionally developed ability test provided that such test, its administration, or action upon the

The law requires removal of artificial, arbitrary and unnecessary barriers to employment which discriminate against applicants simply on the basis of racial or other non-job-related qualifications.

results is not designed, intended or used to discriminate. . . ."

The law stresses that it shall not be interpreted as requiring preferential treatment to any individual or to any group because of their race, color, religion, sex or national origin on account of an imbalance which may exist with respect to any of these categories in comparison with the total number or percentage of such persons in the available workforce.

In other words, if an employer is deliberately trying to avoid hiring and promoting women or minorities, this is a violation of the law. If deliberate discrimination is not the intention, then there should not be any problem, unless the company has followed such policies in the past.

The phrase "preferential treatment" is easily overlooked in discussions of Title VII. The employer is not expected to give preferential treatment—i.e., to hire a woman or minority group member who is less qualified than other applicants. However, if all applicants have similar qualifications, or if a woman or minority member has superior ones, repeated failure to hire or promote them may be taken as deliberate discrimination.

The Supreme Court has ruled that the law requires removal of artificial, arbitrary and unnecessary barriers to employment which discriminate against applicants simply on the basis of racial or other non-job-related qualifications. Such barriers include practices and policies of recruitment, selection, placement, testing, systems of transfer, promotion, seniority, lines of job progression and many others.

It is important to know what the courts have identified as discrimination prohibited by law, and what kinds of remedies have been ordered. The law is developing constantly; however, the following basic principles indicate the consistent trend in court decisions:

▸ Employment discrimination is class-wide discrimination. Where it is found to exist, action to eliminate it must apply to all members of the affected class to which an individual complainant belongs.

▸ It is the consequences of employment practices, not the intent, which determines whether discrimination requiring remedial action exists.

▸ Any employment practice or policy, however neutral in intent and however fairly and impartially administered, which has a disparate effect on members of a group protected by the law, or which perpetuates the effect of prior discriminatory practices, constitutes unlawful discrimination unless it can be proven that such policy is compelled by business necessity.

▸ A highly disproportionate representation of minorities or females in any job classification in relation to their presence in the population or workforce constitutes "strong evidence of discriminatory practices." Where such statistics exist, the burden of proof is on the employer to show that they are not the result of overt or institutional discrimination.

To justify any practice or policy which has "disparate effect" on groups protected by the law, an employer must demonstrate compelling "business necessity" and that no alternative non-discriminatory practice can achieve the required purposes. The courts have interpreted "business necessity" very narrowly, such as requiring overriding evidence of unsafe or inefficient operation of the business, and/or extreme adverse financial impact.

Where the courts have found discrimination, they have ruled that remedies must not only open the doors to equal employment for all, but must also "make whole" and "restore the rightful status" of all those in affected classes. In practice, this has resulted in extremely expensive assessments for back pay and legal costs. Under Title VII, back pay may be awarded to all members of an affected class in the organization, extending up to two years prior to the date a discrimination charge is filed.

The courts have also ordered comprehensive affirmation action, including numerical hiring and promotion goals, where necessary, to compensate for effects of past discrimination.

Courts are increasingly requiring companies and unions to provide pre-apprentice and apprentice training and to hire, promote and train minorities and females who have suffered from discrimination in specified numerical ratios, in specified job categories, until specified goals are reached.

However, one area in which affirmative action has suffered a setback is the issue of lay-offs. When companies were hiring, affirmative action meant that white males might not get hired or promoted for a while. But in times of economic recession, with companies letting workers go, the issue instead became who would lose their jobs. A U.S. Appeals Court in Pennsylvania has held that workers' seniority rights must take precedence over affirmative action goals, reversing a lower court decision. The issue is expected to reach the Supreme Court.

The Equal Employment Opportunity Commission receives and investigates job discrimination complaints, and when it finds reasonable cause to believe that the charges are justified, attempts through conciliation to reach an agreement eliminating all aspects of discrimination revealed by the investigation. If concilation fails, the 1972 amendments to the Civil Rights Act give EEOC the power to go directly to court to enforce the law.

Among the discrimination suits that have been fought and won for employees recently:

- A court-approved decree involving nine of the country's largest steel companies and the United Steelworkers of America, AFL-CIO, provided for nearly $31 million in back pay to be distributed to approximatley 40,000 minority and female employees. The settlements also established plant-wide seniority systems as opposed to departmental systems, and gave workers the right to transfer from one unit to another without loss of pay. Important new minority hiring and promotion goals were also included.
- A settlement with the American Telephone and Telegraph Company involving some $15 million in back pay, and wage increases amounting to another $50 million.
- Anaconda Aluminum was ordered to pay $190,000 in back wages and court costs to 276 women who alleged that the company maintained sex-segregated job classifications.
- Virginia Electric Power was ordered to pay $250,000 to compensate black workers for wages they would have earned if they had not been kept from promotion by a discriminatory system.
- Libbey Owens Ford, under a consent decree, agreed to open bidding for all jobs to women, including those pre-

It is the consequences of employment practices, not the intent, which determine whether discrimination requiring remedial action exists.

viously barred because of state laws requiring overtime pay and weightlifting restrictions.

Cases resolved by the EEOC and the courts also have involved arrest records, garnishments, nepotism, maternity leave and pregnancy, religious discrimination, retaliation for pursuing rights under Title VII, union practices, and testing and education requirements. A total of 90 consent decrees or court settlements were recorded in fiscal year 1975.

The EEOC states that its conciliation efforts together with those of other agencies involved in fair employment practices achieved nearly 7,000 more settlements in fiscal 1975, providing monetary benefits of nearly $111 million to more than 52,000 workers. Many of the agreements also contain affirmative action clauses in which employers agree to expand job opportunities and upgrade positions within their business or organizations for minorities and women.

EEOC Chairman Lowell W. Perry said "While litigation has produced epoch-making changes in the nation's employment scene, it is nonetheless costly in terms of time and money. Real and lasting progress can be made through reasonable conciliation efforts. Achieving successful conciliations will continue to be a major thrust of the EEOC."

Private employers who meet the following criteria are required by law to provide data annually on the occupational status of female and specified minority group employees: 1) employers of 100 or more persons; 2) multi-establishment employers with a total of 100 or more workers must file a separate report for each establishment employing 25 or more people; 3) employers with Federal Government contracts of $10,000 or more.

Under an Executive Order administered by the Labor Department, an employer holding or planning to seek a contract with the Federal Government must prepare an affirmative action program. If the contract or subcontract involves more than $50,000 and employs 50 or more people, a written program is required. In either case, it is to the employer's advantage to conduct a thorough self-audit voluntarily to determine possible discriminatory practices and needed remedial action.

What happens to those forms, that are filled out by the thousands? Some of them are tabulated by EEOC to determine progress in attaining the goals of Title VII of the Civil Rights Act of 1964. For example, 1974 data indicate:

- Among private employers, the number of minority and female workers has increased.
- The participation in the workforce of Asians, American Indians and Spanish-surnamed workers in the lower-paying, lower-prestige service categories declined.
- Increased participation by women in apprenticeship programs.

These findings are based on data collected in 1974 by the EEOC from public and private employers covered by Title VII—some 38,100 private firms employing some 34 million workers; 8,600 apprenticeship committees; and 3,500 local unions operating a referral system.

The EEOC defines equal employment opportunity as "the right of all persons to work and to advance on the basis of merit, ability and potential." When equal employment laws first were enacted, according to the EEOC, "it was generally believed that discrimination took place primarily through conscious, overt actions against individuals; therefore, these laws expressly prohibited such actions, and, to some degree, *overt* discrimination has declined. . . . But the pervasive discrimination today results from normal, often unintentional and *seemingly neutral practices* throughout the employment process.

"Employment *systems* perpetuate the harmful effects of past discrimination even when the original acts have ceased, and continue to discriminate daily, creating very unequal opportunities for many minorities and women. Identification and elimination of such 'systemic' discrimination resulting from regular employment practices is the major focus of equal employment efforts today."

In an effort to help employers eliminate "systemic" discrimination, in the hope that doing so will reduce individual discrimination charges, EEOC has issued a publication entitled *Affirmative Action and Equal Employment: A Guidebook for Employers*. This is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 for $2.45 for the two volumes. For a list of other publications available from the EEOC, write: The Office of Publications, EEOC, 2401 E St. N.W., Washington, D.C. 20506.

The Guidebook provides a comprehensive outline of the legal requirements and other elements of effective affirmative action programming, which requires not only redress for past wrongs, but positive steps to prevent discrimination in the future. It gives employers guidance in developing programs to deal constructively with the effects of present and past discrimination.

Included are aids in identifying areas and causes of underutilization or over concentration of minorities and women, how to eliminate unconscious discrimination in recruiting (for example, "word of mouth" notice of job vacancies tends to perpetuate the homogeneous nature of the workforce), and how to determine whether job qualification and selection standards, such as interviews, tests, and other tools, are discriminatory.

Even when the employer has no conscious intent to discriminate, EEOC officials state in the Guidebook, "Experience in administering equal opportunity laws over the past 30 years has shown that many discriminatory practices of the past remain so deeply embedded in basic institutions of society that these practices continue to have extremely unequal effect on certain groups in our population.

"Many people who suffer effects of past and present discrimination are already qualified for better jobs, but continuing barriers throughout employment systems deny them equal opportunity. The major part of an affirmative action program must be recognition and removal of these barriers, identification of persons unfairly excluded or held back, and action enabling them to compete for jobs on an equal basis.

"There are other people who, because of a lifetime of unequal opportunity in many institutions of society, may need additional aid to become qualified for jobs on an equal basis.

"An effective affirmative action program not only benefits those who have been denied equal employment opportunity but will also greatly benefit the organization which often has overlooked, screened out or underutilized the great reservoir of untapped human resources and skills among women and minority groups." ☆

Energy Management Digest

TOTAL ENERGY CONTRACT . . . The Energy Research and Development Administration has awarded a $500,000 contract to the city of Pasadena to plan and design a "total integrated energy system," offering an energy-efficient way to provide utility services to a downtown redevelopment area. A key feature of the project is an engineering analysis of the feasibility of a 'central energy plant' within a downtown commercial redevelopment area. Austin N. Heller, ERDA's Assistant Administrator for Conservation, notes that "By locating the plant within the community we can use the waste heat from power production—energy that is usually discharged to the environment—to supply other utilities such as domestic hot water, space heating and cooling." This is the general concept of what engineers have termed a total energy system: to get the most out of every drop of fuel being utilized to supply services to people.

PRICE CHANGE LIMIT REVOKED . . . The Federal Energy Administration revoked, effective January 1, the regulation which allowed prices of gasoline and No. 2 oils to be adjusted only once a month, a rule which FEA said could work against the interest of consumers if continued in effect. The rule, which was first adopted in late 1973 during the oil embargo, was designed to cushion the inflationary impact of more frequent price increases during periods of short supply and rapidly rising costs, and to simplify audit procedures for refiners. Elimination of this rule is expected to encourage marketers to follow any downtrend in pricing because they know that they can now take action without delay should that trend reverse.

RECYCLING LUBE OIL . . . After steadily declining in recent years from peak production in the early 1960s, the value of lubricating oil to be re-refined from waste oil is expected to increase once again—from 110 million gallons valued at $134 million in 1975 to as much as 840 million gallons valued at $1 billion by 1985. The projections are made in a new study by market research specialists Frost & Sullivan who also say the industry will grow overall at a 23 percent annual rate through 1985. One big uncertainty, however, still overhangs the industry, they report: What is the quality of re-refined lubricating oil? The 169-page study answers that the characteristics are similar to virgin oils "providing the re-refining process is adequate and the proper additives are included."

FOOD SERVICE REPORT . . . A new FEA guidebook describes how to save energy and money in the operation of the nation's more than one-half million food service establishments. The 72-page "Guide to Energy Conservation for Food Service," developed by FEA and food industry representatives, offers energy-saving suggestions for all types of food service operations, and reports on a variety of energy-consuming equipment used in the industry, such as rangetops, griddles and broilers, ovens, fryers, steam cookers, refrigerators and freezers. The potential for saving is listed, with emphasis placed on increasing the efficiency of presently-owned equipment. Copies may be obtained for $2.15 apiece from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Request GPO No. 041-018-00085-2.

SYNTHETICS NEED HELP . . . A Federal Interagency Task Force on Synthetic Fuels working under the auspices of the President's Energy Resources Council has issued its final report calling for federal incentives to initiate a synthetic fuels industry which could produce oil and gas from coal, shale and solid wastes. The four-volume report, "Recommendations for a Synthetic Fuels Commercialization Program," says domestic oil and gas production, even with Alaska and Outer Continental Shelf development, will be inadequate to prevent increasing oil imports by the 1990s. To prevent this the report concludes that federal financial incentives are needed now to initiate a limited commercial demonstration program to provide the basis for a synthetic fuels industry.

ENERGY ABSTRACTS . . . ERDA Research Abstracts (ERA), a new monthly journal published by the Energy Research and Development Admin., abstracts and indexes all ERDA-originated scientific and technical reports, patents, conference papers, theses, books and monographs. Annual subscriptions will be sold for $119 by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Nation Honors Inventors Whose Contributions Helped American Dream Come True

The story of the American patent system, which has fostered the most remarkable succession of inventions in history and has been primarily responsible for the industrial revolution, was commemorated at special ceremonies in Philadelphia February 11, National Inventors Day and the birthday of Thomas A. Edison.

The ceremonies were held in Congress Hall in Independence Square in which Congress passed the first patent act in 1970. Congress held its sessions in the hall from 1790 to 1800, when it moved to Washington.

The occasion was the fourth National Inventors Day, which took on special significance in the Bicentennial year. Edison's birthday was designated as National Inventors Day by Presidential proclamation in 1973.

A special feature of the event was a Bicentennial Medallion representing the progress made by the nation in the first 200 years of its history.

The medallion was presented to Professor Charles H. Townes of the University of California, and the nearest living descendants of five other famed inventors inducted into the National Inventors Hall of Fame this year.

Living inductee

Townes, whose inventions have produced the maser and the laser, is the only living inventor among the six who made it to the Hall of Fame, which is located in the Patent and Trademark Office in Crystal Plaza, Va. Other inductees were: Cyrus H. McCormick, for the reaper; Charles M. Hall, who invented the first practical process for manufacturing aluminum; Charles Goodyear, inventor of vulcanized rubber; Enrico Fermi, for his neutronic reactor; and Rudolf Diesel, who devised the first internal combustion engine.

In 1973, the first year in which the Hall of Fame was in existence, only Edison was inducted. Of his patents, numbering more than 1,000, the principal basis for his election was his invention of the electric lamp. In 1974, five more inventors were inducted: Eli Whitney, cotton gin; Alexander Graham Bell, telephone; and John Barden, Walter H. Brattain, and William Shockley, transistor. The 1975 inductees were: Orville and Wilbur Wright, flying machine; Samuel F. B. Morse, telegraph; Guglielmo Marconi, wireless telegraphy; Nikola Telsa, electric induction motor; and William D. Coolidge, vacuum tube and process for making tungsten for use in electric bulbs.

Also featured at this year's event was the presentation of the "Bicentennial Patent" to Sidney Jacoby, of Philadelphia, for his "Combination Smoke and Heat Detector Alarm." This was patent number 3,938,115.

Jacoby's invention was the product of tragedy. Fifteen years ago his brother, David, nearly lost his life in a fire that caused the death of a next-door neighbor. The fire was in an apartment house in Philadelphia which had an electrically-operated fire alarm system that failed to function at the crucial point. David talked the matter over with Sidney, and together they sought to develop an alarm that could be operated without wiring that might be burned before the alarm went off. The result was their invention of a compressed gas energizer, a wireless, wholly self-contained apparatus.

Neither of the brothers had any engine ring training. Sidney is a graduate of the Newark Technical School. David has no technical training at all. They were partners in a furniture and home appliance business which they sold in order to devote their efforts and capital to the production of the invention.

They formed the Evergard Fire Alarm Company in Philadelphia, and began to produce their alarm, but almost went bankrupt trying to market it. They peddled their product in and around Philadelphia until they finally were successful. Now vice president and treasurer

BICENTENNIAL—*Special medallion commemorates 200 years of U.S. technical gains.*

of their growing company, Sidney has found time to make improvements in the basic device which the brothers originated.

The Jacoby patent, hand-written in the style of the Eighteenth Century, was signed by President Ford, Attorney General Edward H. Levi, Secretary of Commerce Elliot L. Richardson, and Commissioner of Patents and Trademarks C. Marshall Dann.

Coincidentally, the first U.S. patent grant also was issued to a Philadelphian, Samuel Hopkins, for his discovery of a new apparatus and process for making potash. This grant was signed by President George Washington, Secretary of State Thomas Jefferson, who also served as first general supervisor of the newly-established Patent Office, and Attorney General Edmond Randolph.

The Congress Hall ceremonies included a reenactment of the writing of the clause of the Constitution authorizing the patent system. This was a play by members of the theater wing of the Philadelphia Bar Association who portrayed the personalities who debated and wrote the clause. A 16mm motion picture was made of the reenactment. Copies will be made available to groups wishing to get the film.

Congressional inventors

The Patent and Trademark Office also held open house recently at which awards were presented to five contemporary Congressmen who have received patent grants for inventions of their own: Berkley W. Bedell, Iowa, a line measuring device and treatment of nylon filaments; Clarence E. Miller, Ohio, remote control and alarm system for a compressor station and compressor engines; Robert C. Wilson, Calif., tethered ball game apparatus, racing game apparatus, knockdown animal toy, combined spoon lid for containers, and combined electric razor casing and cord support; James G. Martin, N.C., a method of preventing scorch in butyl rubber compositions; and Robert L. F. Sikes, Fla., a gun holding device.

Also honored at the Patent and Trademark Office ceremony were Prof. Emmett N. Lieth of the University of Michigan and Juris Upatnieks of the Environmental Research Institute of Michigan, who had been named as Inventors of the Year by the Association for the Advancement of Invention and Innovation.

They produced basic inventions in the field of holography involving the creation of three-dimensional images by intersection of laser beams. The inventions are expected to be suitable for a number of valuable applications in various areas.

Demonstrations of patented inventions by independent inventors, including inventions dealing with energy, the building industry, lawn care, folding furniture, and Christmas ornaments were held.

The exposition also included industrial exhibits by Allis Chalmers, Atlantic Research, the Carborundum Company, General Motors Corporation, Hooker Chemicals and Plastics Company, KitchenAid Division—Hobart Corporation, Procter and Gamble, PPG Industries, and Scott Paper, and Federal Government exhibits from the Army Materiel Command, the Copyright Office of the Library of Congress, and Commerce's National Bureau of Standards and National Technical Information Service.

The Bicentennial Medallion will be available in limited quantities to members of the public at $16.50 in bronze or $76.50 in silver. Interested persons may obtain details from the Office of Information Services of the U.S. Patent and Trademark Office. Orders may be placed by writing to National Inventors Hall of Fame, Bicentennial Medallion, P.O. Box 1735, Independence Mall West, Philadelphia, Pa. 19105.

Promising Energy-Saving Ideas Can Get Development Help

One of America's greatest strengths has always been the imagination of its people and the ease with which their good ideas are adopted for the benefit of all. This tradition continues to hold true today, especially in the area of the energy problem.

In 1974, Congress established a national program for research and development of all potentially beneficial energy sources, to be administered by the Energy Research and Development Administration (ERDA).

ERDA recruited Commerce's National Bureau of Standards (NBS) to help it evaluate all promising non-nuclear energy inventions or ideas, particularly those submitted by individuals or small firms that need financial help to develop their full potential.

NBS has established an Office of Energy-Related Inventions (OERI) to give all such inventions a thorough and objective review. If the evaluation shows that an invention has significant promise for either saving or producing energy, ERDA will consider providing the inventor with assistance in developing it.

Any invention or idea for a new device, material, process, or procedure may be submitted. The invention need not be patented, nor for that matter, even patentable. All that needs to be submitted is a description of the invention. In fact, no devices, models, or materials should be submitted unless specifically requested during an evaluation. Drawings are encouraged where appropriate and need not be done professionally.

If in doubt, submit it

As a rule, if use of the invention would result in saving energy or in more efficient use of energy, it is considered energy-related. If there are any doubts, inventors should submit the invention and let OERI decide.

To date more than 5,000 inquiries have been received, and inventors have submitted over 1,400 disclosures for evaluation. "We're currently receiving ten to fifteen new ones each day, and the rate is increasing all the time," according to program director George P. Lewett.

Evaluations consist of two phases, which may be conducted consecutively or concurrently. One phase involves an evaluation of technical feasibility—that is, will the idea work the way the inventor says it will? NBS's technical expertise is used to the maximum extent possible during this phase.

The second phase involves practicability and/or commercial feasibility—that is, does the invention have utility and would it be used if commercially available? For the most part, this phase is conducted by qualified private firms or individuals under contract to NBS.

Once completed, the results of a favorable evaluation may be put into the form of a recommendation to ERDA that the invention be considered for government support. The nature and extent of support to be provided will be determined by ERDA, not by NBS.

If NBS decides not to make such a recommendation to ERDA, the inventor is notified. Such a decision would not necessarily mean that the invention won't work or that it is without any value. It would simply mean that NBS felt it lacked sufficient potential to warrant government support.

The law refers specifically to "direct grants" with regard to these inventions. However, the authority of ERDA to provide assistance in energy-related research and development is very broad and includes grants, contracts, loans, and financial awards. The amount of assistance depends on the potential benefit of the particular invention and the cost of establishing it in the marketplace.

Strict procedures for handling the submitted data have been established to safeguard the proprietary rights of inventors. The disclosures are kept under strict control with access restricted to OERI personnel and to contractors selected by the Office to assist in the evaluation process. All personnel of the

OERI and other government evaluators are required to sign statements advising them that the U.S. Code provides criminal penalties for government employees for unauthorized release of confidential information, including trade secrets. Special provisions of evaluation contracts require adherence to OERI's security rules and provide safeguards against possible conflicts of interest.

The government, however, cannot withhold information in a disclosure when a request is made under the Freedom of Information Act, unless the information comes within one of the exemptions specified in the Act. If, for example, a disclosure contains information that is a trade secret, the information will not be released.

The government has many of its personnel and contractors constantly working on research and development for improving all types of material, and the substance of a disclosure may already be known to government employees or contractors or may become known to them through an independent effort. It should, therefore, be understood that the acceptance of a disclosure will not place any restriction on the right of the government to use information that it has developed from another source or which is in the public domain.

Energy-related inventions can be submitted for evaluation to: Office of Energy-Related Inventions, Room B-362 Met., National Bureau of Standards, Washington, D.C. 20234.

Inventors should request an Evaluation Request Form (NBS-1019), and return the completed form with a description of the invention or idea. There is no fee and no obligation, financial or otherwise, incurred by the inventor.

State Travel Officials To Confer In Washington

State Days, the annual conference of state travel officials sponsored by Commerce's United States Travel Service, will be held February 17-19 in the Department of Commerce auditorium, Washington, D.C.

This marks the third year of the meeting series sponsored by USTS, the Commerce agency which promotes international tourism to the United States.

Agenda topics include USTS' new domestic tourism promotion program and an outline of how various state travel offices function.

In order to involve the states more deeply in tourism program planning the conference will emphasize a workshop approach. Travel officials will participate in workshop teams discussing public information, research, convention promotion, matching grants, and advertising and marketing.

Meetings Around Country Seek To Bring Schools, Workplace Closer

The campus and the boardroom do not always view things in the same light, and Commerce is taking steps to help bridge the gap.

Public hearings on ways to bring the working world and educational institutions closer together will be held in four cities; Lansing, Mich. (Feb. 24); Albuquerque (March 4); Memphis (March 9); and Seattle (March 18).

Several months ago President Ford called on the Secretaries of Commerce, Labor and Health, Education, and Welfare to report to him on ways to bring the world of work and institutions of education closer together.

The President asked the business and labor communities to become more closely involved with the educational process at all levels, and he asked educational institutions to become more sensitive to and involved with the needs of citizens and the free enterprise system.

The work/education hearings are intended to assist in the effort to find improved ways to serve the needs of citizens, employers, students, and the educational system. The hearings are particularly designed to solicit the views of those who are directly involved in the daily functional relationships between the worlds of work and education.

To establish the dimensions of the hearings subject matter, outgoing Commerce Secretary Morton posed a series of questions:

- How can the private sector of our economy become more appropriately involved in the function of education?
- How can institutions of education become more productively involved with both business and government in providing students with both a real knowledge of the world in which they will have to operate following their school years and the skills they will need to be successful in that world?
- How can workers' organizations best become involved with both employers and with institutions of education?
- In the relationships between work and education, are there governmental services offered that are duplicative, competitive or not responsive to real needs? How can such problems be resolved?
- Are those being served by government programs in education and human resources development, employers, employees, and educational institutions, consulted properly as to specification of needs and priorities? How can processes be improved?

The work/education hearings are a continuation of a series of such meetings held in other cities by the Commerce Department to consider how to improve the employment climate in the United States and how to improve government policies on business regulation.

Four Standards Help Industries Measure Hazards To Workers

Safety in the workplace is a continuing concern of several Commerce Department agencies.

More accurate measurements of pollutants that are potential health hazards for industrial workers will be possible as a result of a new series of Standard Reference Materials (SRMs) developed by Commerce's National Bureau of Standards.

The new SRMs for Industrial Hygiene Analysis will provide accurate means for calibrating equipment and methods that are used to determine if workers have been unduly exposed to high levels of industrial pollutants and if the levels of pollutants in the workplace exceed Federal health standards.

The SRMs are the outgrowth of a program, jointly sponsored by the National Institute of Occupational Safety and Health and NBS, to develop reference materials related to industrial hygiene analysis and for monitoring the workplace atmosphere.

The three members of the series newly-available from NBS' Office of Standards Reference Materials are:

SRM 2671, for use in aluminum reduction plants and the fertilizer industry;

SRM 2675, to help monitor the workplace in the specialty ceramics and refractory materials industries, and

SRM 2676 will be used in a variety of industries, including metal-working firms, foundries, paint shops, and plating and welding operations.

In addition, two other SRMs will be issued in the near future: SRM 2672 will be applied to the electrical apparatus industry and in the production of chlorine and caustic soda, where large quantities of mercury are used, and SRM 2679, which will find applications in the mining and ore processing industries.

The cost of each SRM is $80 per unit. They may be ordered from the Office of Standard Reference Materials, Room B311, Chemistry Building, National Bureau of Standards, Washington, D.C. 20234. A separate announcement will be made when SRMs 2672 and 2679 become available.

Industry Highlights

Electronics Brought Dramatic Turnaround To Calculator Makers

(Industry Highlights is prepared by the Office of Business Research and Analysis, Bureau of Domestic Commerce.)

The commercial history of the U.S. calculator industry since the introduction of electronics in the mid-1960's represents a dramatic example of interaction between technological innovation and industrial growth. For added drama, mix in major elements of international competition, aggressive pricing and marketing tactics, and the development and penetration of a new consumer market to the very definite advantage of the consumer. a single IC chip.

The developments of the calculator industry provide an excellent illustration of the way a free and competitive industrial system can provide benefits to the consumer. As late as 1970 it would have seemed inconceivable that in only six years, students, shoppers, sportsmen, workers in various professions, and even research scientists would have hand-held calculators and near-computers at the prices and performance presently available.

Technology did it

These developments also illustrate for all industries the ways in which technology can play upon marketplace elasticity to induce dramatic changes in an industry's size and complexion, and to reverse what appear to be established international advantages in market competition.

- Conservatism in the U.S. electromechanical calculator industry made it unresposive to the potential of the new electronic technology, with the result that the domestic market was lost to more willing foreign innovators.
- The industry as it exists today has regained market control through the application of further technological innovation, high-volume production efficiencies, and aggressive marketing by both established firms and firms new to the field.

Although the application of electronic technology (in this case, transistors) to calculators occurred as early as 1962 by both U.S. and British firms, the first true commercial exploitation of the electronic calculator began in 1964 by the Japanese in their domestic market. By 1966, Japanese calculators were beginning to be seen in the United States, representing in that year only 1 percent of the market.

The Japanese encountered a stable, concentrated U.S. calculator market which had been dominated for some time by four or five vertically-integrated U.S. electromechanical manufacturers. In that year, U.S.-based production amounted to $90 million, representing 80 percent of the value of the $112 million U.S. market.

However, the reluctance of U.S. electromechanical firms with heavy investment in an older technology to change rapidly to the newer technology resulted in their loss of control of the domestic market to more aggressive foreign innovators. By 1970 U.S. production represented only 37 percent of a $224 market, while U.S. calculator imports from Japan had risen to 40 percent of the market's value.

But the advent of electronics had changed the complexion of the industry by this time, restructuring the market into a highly competitive and dynamic environment. The incorporation of integrated circuit technology (ICs) into electronic calculators brought to the calculator industry a number of U.S. semiconductor manufacturers who had no previous experience with calculators, but who were vital component suppliers of these microcircuits to the Japanese manufacturers. It would be several years before Japanese integrated circuit firms would be able to begin supplying their domestic calculator producers.

Integrated circuit technology was pushed past numerous plateaus of density and complexity until 1971, when several U.S. firms announced the incorporation of all the logic and memory circuitry necessary for a four-function calculator (add, subtract, multiply and divide) on a single IC chip.

Easier to make

Not only did this new technology make it possible to reduce an electronic calculator to true hand-held size, but it also further simplified the manufacture of the calculator itself. Labor costs as a percentage of total manufacturing cost dropped further, and Japanese firms lost any advantage this factor had previously given them. The Japanese also had to contend with an import surcharge and a rise in the value of the yen relative to the dollar.

This was the year in which U.S. firms began to regain control of the domestic market.

The number of firms in the market grew to over 40 in 1971, with many new, small firms entering the arena. These firms bought their components from the component suppliers, reducing the actual calculator manufacturing process to a relatively simple assembly and testing procedure.

The first U.S.-produced, electronic, handheld calculator appeared on the market in September 1971, retailing for $240. By December, the retail price had fallen to $180, and was down to $150 halfway through 1972. Producers and distributors now saw the potential of a new, untapped mass market—the U.S. consumer.

It was clear by this time as a result of experience with the handheld calculator's predecessors, that the electronic calculator was a product with a high elasticity of demand; as its price declined, its market grew dramatically. By the end of 1972, the retail price of a four-function calculator had dropped to $100, and its consumer market began to bloom.

Vertical integration

This process was aided by the entrance into the U.S. market in approximately mid-1972, of the first U.S. IC manufacturers who produced their own handheld calculators. This action thus brought back to the U.S. calculator industry the concept of vertical integration.

These IC firms based their aggressive pricing policies on the "learning curve" concept which they had been employing in the semiconductor industry. Essentially, this concept states that manufacturing costs decline by some characteristic percentage each time the cumulative number of manufactured units doubles, i.e., the more units manufacturers produce, the more efficiently they learn to produce these units.

These innovative products and aggressive pricing policies, backed by high volume production efficiencies, helped U.S. firms rapidly regain control of the U.S. calculator market. By 1974, Japanese calculator imports were back down to 24 percent of U.S. calculator sales of an estimated $750 million.

Not only has the introduction of electronics into calculators resulted in a highly competitive market, far larger than previously imagined, but the consumer has enjoyed dramatic benefits, illustrated by such examples as the retail price of four-function calculators falling from nearly $400 in 1970 to under $15 in 1974.

These developments can be viewed from another perspective. The $395 which purchased a simple, four-function calculator in 1970 could purchase a sophisticated, multifunction model (standard four functions, plus higher mathematical functions) by 1972. These calculators have in fact surpassed many of the capabilities of the first generation computers of the early 1950s, which literally filled rooms, and consumed enormous amounts of power.

During 1974, intense price competition caused some firms to withdraw to the upper price and performance levels of the market, where unit profits are higher. Others withdrew completely from the industry. By mid-1975, even some of the market leaders in the consumer handheld sector suffered profit losses as a result of the continuing unit price reductions. Firms must continue to increase the efficiency of their manufacturing and distribution operations, to compete in a mass market which continues to expand as prices fall.

There are signs that the consumer handheld calculator may begin to enter the mature phase of its life cycle in 1976 or 1977, as the number of units sold levels off and sales become dependent on replacement and population growth.

In contrast to consumer handhelds, sales of multifunction handheld models for business and science applications should continue their strong growth through 1976-77. Because the level of sophistication of these machines is beyond the needs of many consumers, the ultimate size of this market probably will be substantially smaller. The multifunction desktop sector of the market, including programmable models, may also begin to exhibit more substantial expansion in the late 1970's as related technological developments continue to decrease manufacturing costs while increasing performance, and if manufacturers follow more aggressive pricing strategies based on such concepts as the learning curve. This growth could also be assisted by the entry into the top of this market sector by computer firms with easy-to-use, desktop computers.

Growing family

Calculator MOS/ICs are but one member of a broader family of microcircuits. The success of the integrated circuit applied to calculators has motivated some firms to look for other products into which these microcircuits can be introduced. Integrated circuits are now appearing in such products as watches, sewing machines and instruments.

Some observers feel that one type of IC, the microprocessor, is potentially a substitute for virtually every control system in existence, whether pneumatic, electrical or mechanical.

As this technology evolves and spreads further throughout the economy, the obvious question arises of whether other industries and firms will be visited by some of the same dramatic changes which it brought to the calculator industry.

The foregoing information was taken from a Commerce study of "the Impact of Electronics on the U.S. Calculator Industry, 1965-74." Copies are available for $1.15 from all GPO bookstores. Ask for stock no. 003-008-00164-5.

'Power Towers' Could Bring Showers, Plus Assorted Other Calamities

Everyone talks about the weather, but the new power parks that have been proposed to help supply the country's industrial energy needs may actually *do* something about it. But what they may do is make worse!

Giant power plant installations planned for the future may generate weather as well as electricity, with thunderstorms, fog, increased rainfall, and whirlwinds among the possible meteorological side-effects, according to Commerce's National Oceanic and Atmospheric Administration (NOAA).

Power parks, where plants generating as much as 50 billion watts would be concentrated in a single location, are contemplated by some as a means of satisfying the nation's energy needs. Such energy centers would dissipate vast amounts of waste heat into the atmosphere, possibly causing a variety of effects on local weather, according to Drs. Steven R. Hanna and Franklin A. Gifford of NOAA's Environmental Research Laboratories.

Power utility companies and government agencies are studying several sites as potential parks that would generate 10 to 50 billion watts of usable energy. In producing that energy, however, as much as 100 billion watts of waste energy would be dissipated, probably through some type of cooling tower.

If towers for such a power center were spaced around an area of 100 square kilometers (about 40 square miles), the production of waste heat would amount to 1,000 watts per square meter—three times greater than the average solar energy reaching the outer edge of the earth's atmosphere, and nearly equal to the energy released in a thunderstorm.

The Commerce Department scientists believe that a heat release of that magnitude could generate thunderstorms, or act as a triggering mechanism in areas where thunderstorms frequently occur naturally. The cooling towers would add moisture to the atmosphere, and their thermal plumes would act like a hill or mountain forming a barrier to air flow and causing abrupt lifting of air. The combined effects of moisture addition and buoyant lifting of air would increase precipitation and thunderstorms.

Comparable sources

No existing power facility releases anywhere near 100 billion watts of heat, but there are comparable stationary heat sources that the NOAA scientists believe can provide clues to the meteorological effects of giant power parks.

The Surtsey volcano, which emerged from the sea south of Iceland in 1963, released an estimated 100 billion watts of heat from an area less than a square kilometer. A permanent cloud visible 115 kilometers away formed over the volcano, and waterspouts developed below the bent-over plume.

Large bush fires in Australia, which produce comparable amounts of heat, are frequently crowned by towering cumulus clouds, and changes in meteorological conditions associated with fires seem similar to those associated with severe thunderstorms and tornadoes. In an experiment reported in 1964, one researcher set up 100 oil burners to induce cumulus convection. The total heat release of 700 million watts generated cumulus clouds and dust devils.

Finally, Hanna and Gifford point to the well-known "heat island" effect of urban areas, which may contribute to altered rainfall downwind. The total heat output of a 10 to 50 billion watt energy center would equal that of a large city, but would be much more concentrated geographically.

Whirlwind makers

Intense heat sources may also generate vortices in the atmosphere. A source of rising warm air could draw air toward it, concentrating and intensifying any slight spin occurring naturally in the surrounding air. Dust devils, waterspouts, and tornadoes are thought to be formed in this way. Also, whirlwinds were caused by fire bombing during World War II, and are often observed over fires in the lee of mountain ridges in the Pacific Northwest.

Using an existing formula that relates the vertical speed of a rising column of air to the velocity of air moving horizontally past it, NOAA scientists calculated that a cluster of 20 cooling towers within a radius of 500 meters (1640 feet) could generate a vortex.

"Wet" cooling towers—those that eject moisture as well as heat—would also produce ground fog downwind. Hanna and Gifford estimate that fog could occur an estimated 66 percent of the time 100 kilometers from the site. If winds are equally probable from all directions, this means that a given spot 20 kilometers away would have ground fog four percent of the time.

Furthermore, some of the moisture ejected by the towers would sink to the ground nearby, forming a fairly dense fog within several hundred meters of the towers, requiring careful consideration of cooling towers with respect to highways.

Nationwide Hearings To Study Petroleum Industry Regulation

Public hearings will be convened this week in Washington and 12 other major cities to obtain a broad spectrum of viewpoints on the future of regulatory activity governing the country's petroleum industry.

Federal Administrator Frank G. Zarb said that "spokesmen for consumers, environmentalists and all aspects of the petroleum industry—including producers, refiners, jobbers and retailers — will appear at these hearings and provide valuable information for the report we must make to Congress in mid-April on our regulatory programs."

Zarb will open the hearing in Washington, and FEA Regional Administrators will preside at simultaneous hearings Feb. 17 and 18 in Boston, New York, Pittsburgh, Atlanta, Chicago, Dallas, Kansas City, Denver, Casper, Los Angeles, Seattle and Anchorage. If the number of witnesses requires, the hearings will continue on Feb. 19.

Among specific topics to be considered at the hearings are six suggested by the Congress while deliberaitng EPCA:

- An equitable and proportionate distribution of costs among all refined products;
- The contention by some that major petroleum companies are selling to their employee-operated stations on more favorable terms than to branded and nonbranded independent marketers:
- An evaluation of the feasibility of removing controls from the retail and/or wholesale level;
- An assessment of whether crude oil purchasers and resellers who initiated business after the 1972 base period should have an opportunity to establish a business and compete for the purchase of crude oil from producers;
- A review of the mandate to allocate on an equitable basis between regions, giving due regard to historical patterns rather than to create preferences between regions without reference to historical patterns; and
- The extent to which environmental impacts are being adequately considered in making allocation decisions.

Multiple goals

FEA's regulations are to be evaluated in light of legislative objectives, which require FEA to consider such goals as protection of public health, safety and welfare; maintenance of public services; priority for agriculture; preservation of a sound and competitive petroleum industry; economic efficiency, and minimization of economic distortion.

The hearings will begin at 9:30 a.m. local time on Tuesday, February 17, at the following locations:

Boston—Room 304, John W. McCormack Post Office and Court House, Post Office Square.

New York—Room 305, 26 Federal Plaza.

Pittsburgh—Room 2214, Federal Building, 1000 Liberty Ave.

Atlanta—Room 201, Atlanta Civic Center, 395 Piedmont Ave., N.E.

Chicago — Room 2586, U.S. Court House, 219 S. Dearborn St.

Dallas—Texas Room, Baker Hotel, 1400 Commerce St.

Kansas City, Mo.—Room 302, Federal Bldg., 911 Walnut St.

Denver—Auditorium, Room 269, Post Office Bldg., 1832 South St.

Casper, Wyo.—Mardi Gras Room, Ramada Inn, 123 West E St.

Los Angeles—Crystal Ballroom, Biltmore Hotel, 515 S. Olive St.

Seattle—Conference Room A, 12th Floor, Park Place Bldg., 1200 6th Ave.

Anchorage—Z. J. Loussac Library, 427 F St.

Washington, D.C.—Room 2105, 2000 M St. N.W.

Written comments will be accepted at Executive Communications, FEA, 3309 Federal Building, Washington, D.C. 20461 until 4:30 p.m., February 19. Fifteen copies should be submitted.

Economic Woes Brought '74 Real Income Dip, Higher Poverty Total

The effects of the twin forces of recession and inflation are shown in reports by Commerce's Bureau of the Census on median family income and characteristics of the population below the poverty level for 1974.

The family income report shows that median family income increased 7 percent from 1973 to 1974, but in terms of real income it actually declined 4 percent because of an 11 percent rise in the cost of living.

Median family income in 1974, in terms of purchasing power in that year, was $12,840. This was an increase, in terms of 1974 purchasing power, of only 1.2 percent over the $12,690 for 1969.

In current dollars, the report shows, median family income increased from $3,030 to $12,840, or 325 percent, between 1947 and 1974. However, inflation eroded much of the actual increase, especially in recent years. In terms of 1974 dollars, median family income rose from $6,690 to $12,840 during the 27-year span, a gain of only 92 percent.

The median family income for families in which the head worked the year round full time did not decline in real terms between 1973 and 1974. It was $16,070 in 1974.

The real median income declined for both white and black families. In 1974, it was $13,360 for white families, about 4 percent below 1973. In 1974, it was $7,810 for black families, about 3 percent below 1973 in real terms.

Men who were income recipients in 1974 had median incomes of $8,380, while women had $3,080. The 1974 median income for men declined 6 percent below 1973 in real terms, while real median income for women did not show a significant change.

In 1974, families headed by a male had median income of $13,790 in real terms, a decline from 1973 of about 4 percent. But families headed by a female had median incomes of $6,410, no significant decline.

Of the 55.7 million U.S. families, 6.4 million, or 11.5 percent, received incomes of $25,000 or more in 1975. There were 15.8 milion families with incomes between $15,000 and $25,000 in 1974; 13.6 million with incomes between $10,000 and $15,000; 12.7 million with incomes between $5,000 and $10,000, and 7.3 million with incomes of less than $5,000.

Families in which there were no earners, such as those living on public aid, retirement, or Social Security, had a median income of $4,840 in 1974.

Poverty levels

The poverty level report shows that in 1974 there were 24.3 million persons below the poverty level, comprising 12 percent of the population. The poverty level was figured in 1974 at $5,038, about 11 percent higher than the 1973 figure of $4,540.

Whites below the poverty level increased 1.1 million, or 8 percent, over 1973. The number of blacks in this category did not change significantly. About 9 percent of the white and 31 percent of the black populations were living below the poverty line in 1974.

About 2.6 million persons of Spanish origin, approximately 23 percent of their total, were below the poverty level in 1974.

Of the persons below the poverty line in 1974, about 19.4 million were family members. The remainder were unrelated idividuals, or persons living alone or with relatives. The poverty rate in 1974 was 33 percent for families headed by women, and 6 percent for those headed by men.

Making It Happen

More than 400 corporate officials from around the country gathered in Washington, D.C., recently for the annual meeting of the National Minority Purchasing Council, a non-profit organization funded by Commerce's Office of Minority Business Enterprise. The Council, which started with five charter members in 1972, has grown to some 800 corporate members, 190 of them Fortune 500 companies.

Members of the group met with President Ford at the White House, and obtained from him an endorsement of the industry-wide effort to secure $1 billion of corporate purchases from minority-owned firms in 1977.

Twenty-six regional purchasing councils have been established to match minority firm capability with corporate purchasing requirements. Corporate purchases from minority firms, which were $86 million in 1972, are expected to exceed $500 million in 1975.

First Economic Survey Available Of Businesses Owned By Women

There were 402,025 businesses owned by women operating in 1972, with $8.1 billion in receipts, according to a survey by Commerce's Bureau of the Census. This report, which was sponsored by Commerce's Office of Minority Business Enterprise, is the first to tabulate basic economic data of this kind.

A preliminary report on the survey (a final report will be published this spring) shows that nearly 39 percent of all firms owned by women were concentrated in five states: California, New York, Texas, Illinois and Ohio. California had the most, 51,847, generating receipts totaling $983 million.

The largest number of female-owned businesses in 1972 was in the area encompassing Ohio, Indiana, Illinois, Michigan and Wisconsin — with 73,698 firms grossing $1.6 billion.

Census computer supplied data

The *1972 Survey of Women-Owned Businesses* is based upon tabulations from the 1972 Economic Censuses, which is taken at five-year intervals to provide, among other things, benchmark information essential for economic forecasting and planning by both government and business. The Census Bureau had lacked the funds to retrieve this material from the computer, until receiving the $170,000 grant from the Office of Minority Business Enterprise.

The report shows the number of firms owned by women, their gross receipts and number of paid employees by industries, geographic area, and legal form of organization. It also includes a computer-generated color map showing the distribution of such firms by state.

Women-owned businesses, according to the report, "are characteristically sole proprietorships and concentrated in industries which normally do not generate a large volume of receipts per firm."

Ninety-eight percent of these firms operated as sole proprietorships in 1972 and accounted for 89 percent of gross receipts. Nearly 2 percent were partnerships, with 7 percent of all receipts, and although only 0.3 percent were corporations, they accounted for 4 percent of all gross receipts.

The report shows that in 1972 women-owned firms were highly concentrated in selected service industries and in retail trade: 151,280 firms in selected services, with receipts of $1.5 billion; and 133,075 in retail trade, with a dollar volume of $4.2 billion. These firms accounted for 71 percent of all-women-owned businesses and 70 percent of their receipts.

According to the report, 33,810 of the firms surveyed were minority businesses owned by women, and they had $837 million in receipts. Minorities covered in the survey included blacks, persons of Spanish origin, American Indians, Asian-Americans and others.

The largest number of minority firms owned by women—9,829—were engaged in personal services, although this category only ranked fourth in gross receipts, with $72.5 million in 1972. Eating and drinking places were the leader in dollar volume, with receipts totaling $140.9 million. Food stores and miscellaneous retail stores ranked second and third, with gross receipts totaling $108.2 million and $75.8 million, respectively.

Businesses Owned By Women

Industry Group	Firms (Number)	Receipts ($1,000)
Eating & Drinking Places	27,402	$993,170
Miscellaneous Retail	65,265	949,624
Food Stores	16,994	880,724
Automotive Dealers & Service Stations	6,658	614,141
Personal Services	68,298	583,590
Real Estate Operators & Builders	28,440	383,208
Apparel & Accessory Stores	8,391	357,838
Special Trade Contractors	11,620	296,930
Business Services	21,312	212,330
Hotels & Other Lodging Places	12,546	196,449

Nominations Sought For 1976 Outstanding Seamanship Trophy

Nominations for the award of the 1976 American Merchant Marine Seamanship Trophy for exceptional events which occurred in 1975 are in order.

The American Merchant Marine Seamanship Trophy was established in 1962 to give recognition to U.S. citizens for deeds exemplifying the highest traditions of seamanship and maritime skills. A Select Committee of maritime labor and management officials and government representatives appointed by the Assistant Secretary of Commerce for Maritime Affairs reviews the nominations and evaluates the worthiness of the candidates.

To date ten awards have been made for such feats as the coordinated action of officers and crew in fighting a disastrous shipboard fire, the maneuvering of a vessel in a crowded harbor during a raging typhoon, and the rescue of 32 persons from a sinking ship in the East China Sea.

Last year's American Merchant Marine Seamanship Trophy went to Captain Lawrence Pagano, master of the United States Lines' vessel *American Racer,* for distinguished seamanship in the successful rescue of 14 people from life rafts adrift in high seas within the Marshall Islands in the Pacific Ocean. The survivors, who had been adrift for 12 hours, were picked up in only 17 minutes by Capt. Pagano's ship.

Criteria for nomination

- The candidate must be a U.S. citizen. Only individuals are eligible—corporations, partnerships, and associations are excluded.
- The candidate must have performed a feat of distinguished seamanship while aboard a civilian-manned U.S.-flag vessel during the calendar year 1975.
  - (a) "Distinguished seamanship" has been defined by the Select Committee to include either a distinguished feat of professional competence in the presence of extreme peril to life or property or an outstanding feat of seamanship exemplifying the highest standards of professional competence under severe weather conditions.
  - (b) U.S.-flag vessels may include yachts or other small craft.
- Nominations are received on a continuing basis but all nominations for this year's award should be received by the Secretariat, c/o Eastern Region Director, Maritime Administration, 26 Federal Plaza, New York, N.Y. 10007, by March 1.

When submitting nominations, the following information should be included: Name of candidate; vessel and owner; date of incident; time, place and weather conditions. If possible, an abstract or photocopy of the ship's log, eyewitness reports, and other pertinent supporting documents should accompany the nomination.

Symposium, Special Project Spur National Fire Prevention Effort

A two-day symposium on fire hazards and preventive efforts will be held April 5 and 6, at Commerce's National Bureau of Standards (NBS) in Gaithersburg, Maryland. The symposium will be a major event in the activities planned by the Institute for Applied Technology to celebrate NBS's 75th anniversary.

The Institute's fire research program contributes to the overall goal of the National Commission on Fire Prevention and Control, which is seeking to achieve a 50 percent reduction in the nation's fire losses in a generation.

The first day of the symposium will review the fire hazard in the United States, including such topics as fire loss experience, fire phenomena, and the role of tests in defining the fire hazard. The second day will center on efforts to reduce the risks of fire, such as the activities of regulatory agencies, fire research groups, and the National Fire Prevention and Control Administration (NFPCA). The symposium will conclude with brief comments by a panel of experts on fire problems and an open discussion of questions from the floor.

The United States, the most technologically advanced country, is also the world leader in fire losses. More than 12 000 persons are killed each year in the U.S. by fire and 250,000 are severely burned. Property loss from fire is valued at more than $3 billion a year. Fire fighting is one of the nation's most hazardous occupations.

Meanwhile, Project RIDFIRE, a national program to reduce residential fires, has begun its initial phase. The program is a cooperative venture of the NFPCA and the Fire Marshal's Office of Washington State.

Howard D. Tipton, NFPCA Administrator, describes RIDFIRE (Reduction In Dwelling Fires In Research and Education) as the agency's "first major step toward assisting local governments and communities to reduce fire hazards through education and involvement of the public."

The project is studying about 60 national fire safety inspection programs. One of these, a model home safety inspection program in Edmonds, Wash., has achieved an 80 percent reduction in home fire losses in the last year.

In the first six months of 1974, the Edmonds fire losses totaled $72,050. For the same period in 1975, the losses dropped to $13,655. In the second year of the inspection, nearly 60 percent of the hazards found in the first inspection had been corrected. Twenty-three homes had installed early warning fire detectors.

Rex Jordan, Chief of the Washington State Fire Marshal's Office and Director of the RIDFIRE project for the state, comments that the project "can have a strong impact on the reduction of fire losses in homes across the country."

Project RIDFIRE is the first in a series of programs planned by the Public Education Office of NFPCA. Others under development are a school-community fire prevention curriculum, fire safety programs for the elderly, public education programs for urban areas and a rural fire prevention education program.

Fire educational materials which have been developed include manuals instructing homeowners how to store rubbish and trash, ashes, and painting materials; how to set up storage and work areas; how to eliminate kitchen hazards, combustibles near heating devices; and what to do about stove pipes and fumes, masonry chimneys, gas fuel devices, wiring and fuses, electrical cords and motors, radio and TV sets, garages and yards, and building maintenance.

Denver Meeting

Government and industry experts will gather at a February 26 seminar in Denver to discuss methods of increasing productivity.

Travis E. Reed, Assistant Secretary of Commerce for Domestic and International Business, announced that about 100 representatives of manufacturing and service industries in the Colorado area will join Department of Commerce officials at the seminar, which will be held at the Albany Hotel. The seminar will start with a luncheon at noon.

Participants will stress methods of increasing output without use of additional resources. Speakers will respond to questions by persons attending the seminar and will comment on individual productivity measurement programs.

Bicentennial Estimates Increased As 1975 Visitors To U.S. Set Record

The first year of the Bicentennial Era—1975—was a record-breaker for international tourism arrivals in the United States. This country hosted an estimated 15.7 million visitors from abroad during 1975—an increase of 11.1 percent over 1974.

The impact of the 200th anniversary celebration is so apparent that Commerce's United States Travel Service, the national government tourism office, recently revised its projections on international visitor arrivals and receipts during the Bicentennial Era. USTS now estimates that nearly 34 million international tourists will visit the United States during 1975 and 1976, spending more than $12 billion.

Canada still leads

Canada continued to be the number one tourist-generating nation, with 10 million arrivals in 1975, up 15.4 percent. Mexico, with 2.1 million arrivals, also showed a strong increase—14.1 percent.

Japan remained the largest overseas generator of travelers to the United States, showing a 2.9 percent increase, to 785,000 visitors. Declines were recorded from Western European markets: United Kingdom, 410.000 arrivals, down 8.9 percent; West Germany, 280,000 arrivals, down 5.4 percent; and France, 150,000 arrivals, down 9.5 percent.

Tourist-generating countries in South America continued to show strong increases: Brazil, 101,000 arrivals, up 18.1 percent, and Venezuela, 99,000 arrivals, up 11.7 percent.

U.S. receipts from international visitors totaled $5.48 billion in 1975, a 13.2 percent increase over 1974.

An estimated 22.6 million Americans traveled abroad in 1975, down 5.5 percent from 1974. Expenditures by Americans traveling abroad totaled an estimated $8.1 billion, a 1.4 percent increase.

The travel dollar balance is the difference between international visitor spending in the United States and U.S. traveler expenditures abroad. In 1975, the U.S. travel dollar balance is expected to be in deficit by $2.615 billion, a decrease of 16.7 percent from 1974's $3.14 billion.

Significantly, the U.S. travel dollar balance with respect to Canada will be in surplus by $120 million, the first such favorable balance in more than a decade. A surplus of $125 million is also anticipated with respect to Mexico, the first such surplus recorded.

When all the 1975 figures are received and tabulated, the travel accounts with Western Europe are expected to continue to reflect negative balances against the U.S. The U.S. travel accounts with South America and Japan, however, are expected to show favorable balances for 1975.

Marine Probers Seek Items With Industrial Uses

Armed with a $1,460,000 Sea Grant from the National Oceanic and Atmospheric Administration (NOAA), the University of Washington intends to conduct a broad range of marine investigations that may result in products with a number of industrial uses.

The University's College of Forest Resources is exploring a unique industrial application of marine organisms found in the Northwest. Compounds called polymers, extracted from shellfish wastes and seaweeds, hold promise for use in nonwoven textiles, as strengthening agents in paper products, and in the manufacture of plastics and pharmaceuticals.

Several paper companies in the Northwest already have shown considerable interest in the University's marine polymer research and are now working closely with its scientists in developing a specific polymer called chitosan, derived from shellfish wastes. Laboratory tests have shown that chitosan increases both the wet strength and opacity of paper.

A team of Sea Grant-supported scientists will engage in research into both the commercial and recreational fisheries of the Northwest Pacific under the Sea Grant. The aim of the research group is to obtain sufficient information to insure sound management of the marine fisheries, particularly those species that have not been fully exploited.

In related work, aquaculture researchers will continue studies of several commercially important varieties of finfish, shellfish and seaweed.

A special technician training program will continue under which five Washington community colleges will offer courses in marie mechanics, petroleum handling and transportation, and commercial diving.

Washington's Marine Advisory Service plays a major role in bringing the results of research to persons along the state's 2,000 miles of coastline. Six field advisory regions, from northern Puget Sound to the Columbia River basin, have been set up to provide advice, information, and assistance to a wide range of users from the aquaculture, commercial fishing, and seafood processing industries.

Directory Lists Free Services For Minority Firms

A newly-updated directory of private organizations funded by Commerce's Office of Minority Business Enterprise is available to minority firms in need of free business assistance.

The 48-page directory, entitled *OMBE Funded Organizations Directory,* lists 282 organizations, including national and local business development organizations, private resource centers, city and state OMBEs, construction contractor assistance centers, and minority business and trade organizations, among others. Also listed are the names, addresses, and phone numbers of individuals to contact. Their services are cost free.

Copies are available in limited qauntities from: OMBE Information Service, U.S. Department of Commerce, Washington, D.C. 20230.

Pittsburgh Center Opens To Aid Minority Businesses

A new approach to providing business assistance to minority entrepreneurs is being tried at a "one-stop" center in Pittsburgh, funded by Commerce's Office of Minority Business Enterprise.

The Center will provide minority business owners and prospective owners with technical assistance in financial packaging, federal procurement, construction contracting, marketing, bookkeeping and other areas of business operation. It will also help minority firms in stepping up their sales to customers in the private sector.

The one-year $455,259 contract for the Pittsburgh Business Development Center was awarded to the United Black Front, Inc. The Center is an innovation in that it will combine services formerly funded separately.

Funds provided under the OMBE contract go toward administrative costs, and are not used to make loans to individual businesses. The services are provided free of charge to qualified clients.

One-stop centers have already begun operating in Philadelphia and Washington, D.C. The former is putting together a $30 million shopping mall, and the latter has just completed negotiating a $6 million Federal Government contract which went to a local black firm.

Study To Assess Ports' Impact On U.S. Economy

What impact do America's ports have on the nation's economy? To help find the answer to that question, Commerce's Maritime Administration is funding a 20-month study by the Port Authority of New York and New Jersey.

In announcing the $234,000 award, Assistant Secretary of Commerce for Maritime Affairs Robert J. Blackwell said "The bi-state port agency will not only evaluate the effects of port activities on the Gross National Product, but also on employment, individual industries, foreign trade, governmental tax revenues, and other subject areas."

According to Blackwell the study will develop the framework and the analytical means for efficient port planning and operations. He said, "The 'input/output' technique to be used in the study, which represents a new approach to problem-solving in this area, is a mathematical tool that shows all the intricate linkages among the nation's industries and between each industry and the final consumer."

In particular, this kind of analysis will indicate how the port industry relates to production and consumption in such sectors as agriculture, steel, and automobiles, as well as the amount it effectively contributes to the livelihood of each of these sectors. Such knowledge should provide a definite contribution to port planning throughout the U.S.

Currently, no reliable yardstick exists for measuring a port's economic impact, especially in non-maritime areas. The methodology developed by the Port Authority for this project has been reviewed and approved by Commerce Department specialists.

Tax Deferrals For Fishing Boat Builders

A booklet telling commercial fishermen about a program which helps them accumulate funds for building or improving their fishing vessels has been published by the National Marine Fisheries Service, an agency of Commerce's National Oceanic and Atmospheric Administration (NOAA).

Capital Construction Fund is a 24-page booklet of most frequently asked questions, and detailed answers, concerning the program, which provides tax deferrals for commercial fishermen to construct, reconstruct, or under limited circumstances acquire fishing vessels. It permits fishermen to defer payment of federal taxes on taxable income from the operation of their fishing vessels, thus in effect giving them an interest-free loan from the Government for the construction or improvement of fishing vessels.

Write: NOAA, National Marine Fisheries Service, Financial Assistance Division, Washington, D.C. 20235, or Financial Assistance Officers at NMFS regional offices in Seattle, Terminal Island, Calif.; Gloucester, St. Petersburg, or Juneau.

Conferences Brief Firms On Winning Federal Contracts

Several conferences have been scheduled around the country to provide members of the business community with an opportunity to meet, on a person-to-person basis, with procurement specialists from military and civilian Federal Government agencies and prime federal contractors. The sponsors are Congressmen from the respective localities.

February 20—Anaheim, Calif.—Anaheim Convention Center. For information, contact Roy Knauft, Office of Congressman Charles E. Wiggins, Suite 103, 1400 N. Harbor Blvd., Fullerton, Calif. 92635 (714-870-7266).

March 4 — Middletown, Ohio — Manchester Motor Inn. For information, contact Roger Gillespie, District Representative, Office of Congressman Thomas N. Kindness, 801 High St., Hamilton, Ohio 45011 (513-895-5656).

March 12—Long Beach, Calif.—Commissioned Officers' Club, Terminal Island. Cosponsors: Chambers of Commerce of Carson, Harbor City, Lomita, Long Beach, San Pedro, Torrance and Wilmington. For information, Max Garten, Senior Field Deputy for Rep. Glenn M. Anderson, 255 West 5th St. #506, San Pedro, Calif. 90731 (213-548-2551).

March 19—Baton Rouge, La.—Prince Murat Inn. For information, Pete Arceneaux, Office of Rep. W. Henson Moore, 236 Federal Bldg., 750 Florida Blvd., Baton Rouge, 70821 (504-344-7679).

April 2—El Segundo, Calif.—The Hacienda Hotel. Cosponsors: The Chambers of Commerce of Compton, Gardena, Hawthorne, Inglewood, Lawndale, Lynwood, Paramount and Torrance. For information, Gary A. Reinhart, Office of Rep. Charles H. Wilson, 15000 Aviation Blvd., Room 2W30, Lawndale, 90261 (213-536-6683).

Directory Lists Marine Products and Services

Some 800 categories of marine products and services provided to the marine/offshore industry are indexed in the second edition of the *Marine Products and Services Directory* published by the Marine Services Association of Texas.

This 140-page directory identifies those MSAT firms that serve the marine industry. MSAT is a nonprofit voluntary association of professional marine supply and services personnel.

Copies are available to nonmembers at $5.00 per copy, plus $1.00 for postage and handling, from MSAT, 1200 South Post Oak Road, Suite 422, Houston, Texas 77056.

Calendar For Businessmen

Feb. 18-Dallas — Defense Priorities & Allocations Seminar, New Federal Office Bldg. Sponsors: Commerce, U.S. Dept. of Defense. For information, Roland Bartlett (214-744-5481).

Feb. 18-20—Washington — Management Skills for Newly Appointed Managers, Shoreham Americana. For information, Advanced Management Research International, Inc., 1370 Ave. of the Americas, New York 10019 (212-765-6400).

Feb. 18-20—Washington—Federal ADP Procurement, Quality Inn—Pentagon City. Sponsor: American Institute of Industrial Engineers & gov't agencies. For information, Dept. PR, AIIE Seminars, P.O. Box 25116, Los Angeles 90025 (213-826-7572).

Feb. 19-20—Gaithersburg, Md.—Workshop on Standard Reference Materials for Power Plant Operation, National Bureau of Standards Administration Bldg. For information, Donald Becker, NBS Energy-Environment Workshop Coordinator, Chemistry Bldg., A 309, Washington, D.C. 20234 (301-921-2128).

Feb. 22-24 — Andover, Mass. — Computer Printers Conference, IGC Conference Center, Andover Inn. For information, Institute for Graphic Communication, 375 Commonwealth Ave., Boston, Mass. 02115 (617-267-9425).

Feb. 23-24—New Orleans—Risk Management of Oil & Gas Exploration, Le Pavillion Hotel. Sponsor: The Wharton School, Univ. of Penna. For information, Heidi Kaplan, N.Y. Management Ctr., 360 Lexington Ave., New York 10017 (212-953-7262).

Feb. 23-25—San Francisco—Management Skills for Newly Appointed Managers, Holiday Inn Golden Gateway. For information, Advanced Mgt. Research (see address above).

Feb. 23-25—New York—How To Improve Your Productivity, American Mgt. Assn. Headquarters. For information, AMA, 135 West 50th St., New York 10020 (212-586-8100).

Feb. 23-27—New York — Fundamentals of Plastics, Barbizon-Plaza. Sponsor: New York Univ. School of Continuing Education. For information, Heidi Kaplan (address above).

Feb. 23-27—New York—AMA Management Course, AMA Headquarters. For information, American Mgt. Assn., 135 W. 50th St., New York 10020. (212-586-8100). Also given Mar. 1-5, Mar. 8-12 and other dates.

Feb. 23-27—Atlanta—AMA Management Course, first session, Omni Int'l Hotel. For information, American Management Assn. (address above).

Feb. 24-26—Arlington, Va.—Management Skills for Women Seminar, Sheraton National Hotel. For information, Advanced Management Research (see address above).

Feb. 25—Morristown, Tenn.—Domestic Business Conference, Morristown Chamber of Commerce. For information, Morristown Chamber, Commerce Memphis District Office.

Feb. 25-26—Los Angeles—How to Market Financial Services to the Female Executive, Beverly Hilton. For information, National Business Conferences, Inc., 919 Third Ave., New York 10022 (212-826-6883).

Feb. 26—New Orleans—Planning & Legal Issues of Growth Mgt. Seminar, Fairmont Hotel. Sponsors: American Institute of Planning, American Bar Assn. For information, AIP, 1776 Mass. Ave. NW., Washington, D.C. 20036 (202-872-0611).

Mar. 1-5—Dallas—AMA Management Course, first session, Royal Oak Motor Hotel. For information, American Management Assn. (address above).

Mar. 1-5.—New York—Solar Energy Technology & Opportunities Seminar, Barbizon-Plaza Hotel. Sponsor: Commerce's National Technical Information Service. For information, Heidi Kaplan (address above).

Mar. 2—New York—Medical Diagnostic Ultrasound Instrumentation Seminar, Harvard Club. For information, Frost & Sullivan, Inc., 106 Fulton St., New York 10038 (212-233-1080).

Mar. 2-4—Kansas City—Machinability: Applications & Economics Clinic, Radisson-Muehlebach Hotel. For information, Jerry Exner, Society of Manufacturing Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500 ext. 54).

Mar. 3-5—San Francisco—1976 Pacific Automotive Show, Cow Palace. For information, Public Information Bureau, P.O. Box 1190, Muncie, Ind. 47305 (317-284-7707).

March 3-5—Los Angeles—Western Regional Bank Card Conference, Airport Marina Hotel. Sponsor: American Bankers Assn. For information, Andy Ernst, ABA, 1120 Connecticut Ave. NW., Washington, D.C. 20036 (202-467-5407).

INTERNATIONAL COMMERCE REPORT

Import Drop, Continuing Rise In Exports Produce Record U.S. Trade Surplus In 1975

The United States recorded the largest merchandise trade surplus in its history in 1975. Exports continued to increase, despite sluggish economic activity abroad, while imports declined in response to the business recession here.

U.S. exports, excluding military grant-aid, totaled $107.2 billion last year, 9.5 percent above the 1974 level. This represented a marked slowdown from the growth rates recorded in the two preceding years. Imports, on the other hand, declined for the first time in 14 years by 4 percent to $96.1 billion on the f.a.s. transaction value basis. On a c.i.f. basis, which includes the cost of insurance and freight to U.S. ports, the import value was $103.4 billion last year.

The advance in exports and the drop in imports produced a huge turnaround in the U.S. merchandise trade balance which shifted to a surplus of $11.1 billion from a deficit of $2.3 billion in 1974, based on the f.a.s. import value. On a c.i.f. import basis, the surplus was $3.8 billion.

Exports, after only a marginal rise in the first three months of last year, fell sharply in April-June, but recovered in the third quarter and continued to expand, though at a slower rate, in October-December. Imports registered substantial declines in both the first and second quarters of 1975 before turning upward sharply in July-September and rising further in the final three months.

The weakness in U.S. foreign trade movements evident in the first half of last year was a direct result of the most severe world economic slump in the post-World War II period. Deceleration in U.S. export growth was due mainly to reduced economic activity abroad, coupled with a halving of the rate of increase in export prices which was related directly to generally slack demand. Declines in production and investment in foreign industrial nations held U.S. sales to this group of countries to a marginal rise. Moreover, the expansion in U.S. shipments to the non-oil exporting developing countries slowed substantially because of their less favorable export earning and reserve position.

The sharp business downturn in this country during the first half of 1975 depressed U.S. import demand. Imports of consumer goods and industrial supplies other than fuels were particularly reduced as a result of sluggish consumer spending, falling industrial production, and the huge liquidation of inventories. After the resumption of U.S. economic growth in the second half of the year, however, imports responded with a substantial pickup.

Both exports and imports declined last year after adjustment for higher prices. In volume terms, exports fell by 3 percent, while imports declined by 11 percent. Although prices continued to climb in 1975, the increases were considerably smaller than in the preceding two years. In fact, from March of last year export and import prices trended downward.

Nonfarm products boost exports

All of the $9.3 billion export advance last year resulted from larger nonfarm sales. Nevertheless, after increasing by 43 percent in 1974, the expansion in these exports slowed to 12 percent. Shipments in the first half of the year fell slightly from the level attained in the fourth quarter of 1974. In the third and fourth quarter, however, they climbed substantially.

Machinery exports, which led the expansion with a 20 percent rise over the preceding year, were responsible for half of the export increase. Although the downturn in economic activity abroad caused a slump in investment there, the growth in U.S. machinery shipments was sustained throughout the year. U.S. manufacturers, faced with sluggish domestic demand, were able to fill backlogged export orders, enabling machinery sales to continue their upward trend. Moreover, a disproportionately large part of the machinery export increase was shipped to the oil-exporting developing countries whose demand for U.S. equipment for large-scale development programs has risen with the tremendous growth in their oil revenues.

Big advances were recorded to the latter countries in exports of materials handling equipment and construction machinery. Likewise, sales of oilfield equipment, pumps, and compressors climbed sharply to them and others, reflecting growing worldwide energy development. Exports of agricultural machinery and tractors expanded strongly again, particularly to several countries in Latin America and to Canada, where a number of U.S. subsidiaries are located. A substantial jump in the value of metalworking machinery exports stemmed primarily from large shipments to Europe and Latin America.

Exports of computers and parts, on the other hand, after climbing significantly in the preceding two years, showed almost no change as shipments to Western Europe leveled off and sales to Japan declined. Similarly, exports of semiconductor devices and parts, following three years of rapid growth, fell by 13 percent despite a pickup in the second half of last year.

Export Growth Stems From Nonfarm Sales

Millions of dollars

	1974	1975	% change from 1974 to 1975
Nonagricultural products, total	**75,648**	**85,094**	**+12**
Machinery	24,318	29,215	+20
Road motor vehicles and parts	7,225	9,264	+28
Aircraft and parts, non-military	4,665	4,864	+ 4
Military goods	2,157	3,071	+42
Coal	2,437	3,259	+34
Textiles, other than clothing	1,795	1,625	— 9
Iron and steel mill products	2,500	2,382	— 5
Chemicals	8,819	8,705	— 1
Agricultural products, total	**22,260**	**22,097**	**— 1**
Wheat	4,437	5,162	+16
Corn	3,772	4,448	+18
Fruits and vegetables	994	1,111	+12
Soybeans and soybean oilcake, meal, and oil	5,000	3,770	—25
Cotton	1,335	991	—26

Shipments of automotive products to Canada showed their slowest rate of growth in five years. They declined sharply in the first quarter of 1975, but advanced substantially thereafter with the gradual improvement in the North American auto market. Sales of motor vehicles and parts to other countries climbed steeply again last year. A large part of the gain represented exports to the OPEC nations, especially trucks to Iran.

Coal exports increased by one-third in value, with quantities up 9 percent and prices substantially higher. After peaking in the first quarter, however, deliveries trended downward until the final three months. Sales of other industrial supplies were generally sluggish. Among the major exports, steel, nonferrous metals, textiles, chemicals, paper, and lumber all declined in value. Shipments of paper, organic chemicals, and textiles, though, turned up sharply in the second half. Deliveries of military goods contributed importantly to the U.S. export advance, rising by about $900 million from their 1974 level.

After increasing sharply in the preceding three years, exports of agricultural products declined by 1 percent to a total of $22.1 billion. From their record level in the first quarter, these shipments dropped substantially in April-June, and turned upward again in the final three months. Sales of wheat advanced in both value and quantity, to a large extent reflecting the sharp rise in shipments to the USSR necessitated by the crop failure there. Shipments of corn, up 18 percent over 1974, were particularly heavy in the fourth quarter after a record U.S. corn crop had been harvested. Exports of soybeans, which had risen steadily in quantity and value since 1962, declined, primarily because of greater foreign competition. Sluggish world textile markets and abundant supplies led to a substantial decline in cotton exports.

Industrial supplies lead import drop

A major part of the decline in imports last year was accounted for by sharply lower purchases of industrial supplies other than fuels. These imports fell by 13 percent in value from the preceding year because of reduced demand stemming from the downturn in domestic industrial output, the slump in new construction, and lower prices for some key products.

The value of steel imports fell by $700 million, as the quantities declined sharply from the first to the second half, following receipt early in the year of orders placed in Japan in 1974. Arrivals of copper and alloys declined by two-thirds when prices collapsed as a result of reduced world demand and excess supplies. Imports of most other ores and metals were lower in volume, although values for iron ore, bauxite, aluminum, and tin rose because of higher prices.

Import Declines In 1975 Widespread

Millions of dollars

	1974	1975	Decline from 1974 to 1975
Residual fuel oil	5,064	3,967	—1,097
Copper and copper alloys	1,189	419	— 770
Iron and steel mill products	4,756	4,037	— 719
Distillate fuel oil	1,004	498	— 506
Motorcycles and bicycles	1,262	843	— 419
Textiles, other than clothing	1,615	1,219	— 396
Sugar	2,247	1,870	— 377
TVs, radios, and Hi-Fi equipment	2,120	1,748	— 372
Silver and platinum	884	518	— 366
Passenger cars, except from Canada	4,673	4,321	— 352
Organic chemicals	1,363	1,028	— 335
Lumber	1,141	866	— 275
Metal coins	608	349	— 259
Meat	1,353	1,141	— 212

Continued weakness in the domestic home building industry caused purchases of lumber to decline by one-fourth in value. Arrivals of woodpulp and newsprint were also somewhat lower, as higher prices partly offset greatly reduced quantities. Among other industrial supplies, large declines were recorded for imports of textiles, organic chemicals, and plastics.

After more than tripling in value in 1974, imports of petroleum and products rose by only 2 percent last year to a total of $25.2 billion. Quantities were 2 percent lower for the year, though they began to pick up in the second half after a depressed June quarter. Receipts of crude oil from OPEC and other oil-exporting LDC's increased substantially, but arrivals of refined products from Western Europe and elsewhere declined. Most of the geographic shift in supply was the consequence of disruptions caused by the Arab oil embargo in 1973-74. Higher entries of crude last year also resulted from reduced availability of supplies from Canada and lower production in this country. Natural gas purchases from Canada, which were restricted in volume by that government for conservation purposes, more than doubled in value because of sharply higher prices.

Imports of consumer goods decreased by $1.2 billion from their peak 1974 level, as purchases of nearly all types dropped in value. Following declines in the first six months, consumer imports as a group turned up strongly in the second half.

Lower arrivals of cars and consumer electronic products accounted for much of the reduction last year. The number of imported cars from Western Europe and Japan was down by 414,000 as the large inventories built up in 1974 were drawn upon to meet U.S. demand for these gas-saving vehicles. The magnitude of the automotive inventory reduction can be illustrated by the fact that if imports of cars from overseas had matched domestic sales last year, the United States would have had to purchase about $800 million more of these vehicles than in fact was the case. The number of cars from Canada also declined, though more moderately, but higher prices boosted the value.

Receipts of motorcycles dropped by over $200 million after large increases for several years; bicycle imports also fell by $200 million. Continuing the decline of the previous year, imports of TV's, radios, and tape recorders dropped over $100 million each, though purchases turned up in the final two quarters. Clothing and footwear were the only two major consumer imports to show advances over 1974 values.

Led by sharply lower values for sugar and meat, food and beverage imports fell by nearly $1 billion. Despite a resurgence in quantity in the second half, sugar receipts were down by one-third for the year because of higher domestic production, lower per capita consumption, and a drawing down of inventories. Although meat consumption also declined, imports rose in volume. Lower unit prices nevertheless caused a drop in value from the preceding year. The cost of coffee and cocoa arrivals increased as quantities picked up from depressed 1974 levels.

In contrast to the general trend, imports of capital goods were marginally higher in 1975. After declining in the four previous quarters, they advanced in the final three months. Measured in volume terms, however, arrivals of capital goods were lower in reflection of the downturn in real domestic expenditures on plant and equipment. Machinery imports rose slightly, with larger purchases of foreign machine tools, tractors, and harvesting equipment partially offsetting declines in other types. Entries of trucks, buses, and chassis dropped about 10 percent in value because of a reduction in arrivals from Japan. Although imports of aircraft and parts fell in each quarter, they were marginally above 1974 levels for the year.

Brazil-U.S. Business Council Formed; Mood Is Confident

U.S. traders, assessing the impact of import controls imposed in December by Brazil, should not over-react to this development and conclude that a sharply rising market for American goods has disappeared forever. Brazil's stringent measures to insure its continuing international creditworthiness still leave important opportunities for suppliers in the short run and will lead to a resumption of sizable import growth in the longer term.

This advice comes both from U.S. and Brazilian trade officials. It accompanied the establishment last month of a Brazil-U.S. Business Council by the Chamber of Commerce of the United States and four Brazilian business organizations. It was also the theme of a report by Robert G. Shaw, Deputy Director of Commerce Department's Bureau of International Commerce, upon his return from a visit to Brazil's commercial centers, during which he met with several ranking members of Brazil's Ministries of Foreign Relations, Finance and Industry and Commerce.

Speaking in Washington at the ceremonies inaugurating the joint business council, Brazil's Planning Minister Joao Paulo dos Reis Velloso said that the adverse factors Brazil is now coming to grips with are essentially of external origin and affect to a greater or lesser degree every country in the world. And it is Brazil's very success in expanding and diversifying its exports, especially of manufactured goods, that has made the country more susceptible to world economic turbulence. When the foreign markets for its products contract, the cost of needed raw materials and capital goods rises and the cost of fuel to produce and transport these products quadruples, then the overall Brazilian economy cannot remain unaffected.

Minister Velloso, who is also the chief economic advisor to the Brazilian Presidency, continued by saying that in order to relieve the resulting severe strain on Brazil's balance of payments and maintain a high international credit rating, steps have been taken to reduce imports. The most recent of these were the measures enacted in December 1975 to increase the cost of importing and to encourage the extension by foreign suppliers of credits with a maturity of at least five years. Minister Velloso emphasized that these measures are temporary, designed to correct the short-run problems of Brazil in a transition period.

Shaw's report seconded these views, in recommending that U.S. traders and investors try to put the current Brazilian situation into perspective. Brazil's spectacular economic growth over the last several years has become common knowledge. The only problem with this is that when GNP growth slips from an average annual rate of close to 10 percent and when imports no longer grow at 25 percent per year, it disturbs those who have taken these aspects of the Brazilian economic miracle for granted. Shaw counseled against undue pessimism while the Brazilian economy catches its breath. He pointed to Brazil's continuing need for U.S. machinery and technology in connection with the ambitious long-term development goals being held to by Brazil's planners.

This demand was clearly evident to U.S. exhibitors at MECANICA '75, the giant machine tool exhibition held last November in Sao Paulo, shortly before current import restrictions went into effect. Shaw lauded the role of the National Machine Tool Builders Association in helping to sponsor one of the largest and most effective U.S. pavilions ever staged abroad by the Department of Commerce.

John Connor, International Trade Director of the association, said the show gave him an excellent opportunity to survey the future Brazilian market for American machine tools. He considers this market still one of the world's best.

At the show, 80 American companies made off-the-floor sales of nearly $9 million and estimated that first year sales would exceed $39 million. Thirty-five agents were appointed.

Metalworking machinery with the best potential for export to Brazil includes automatic milling machines; numerically controlled machining centers, lathes, punch presses, and milling machines; large lathes; large milling machines; thread milling and rolling machines and tools; high speed tube cutters; cold extrusion press systems; high speed presses and press automation equipment; internal grinders; and large boring mills.

Council ceremony

The Chamber of Commerce of the United States and a Brazilian Joint Commission, representing four Brazilian business organizations, signed the agreement establishing the Brazil-U.S. Business Council on Jan. 30. It provides a channel for direct dialogue between business leaders and key commercial decision-makers of the two countries. The Brazilian Joint Commission represents the Confederation of Industry of Brazil, the Confederation of Commerce of Brazil, the Brazilian Exporters' Association and the Confederation of the Commercial Associations of Brazil.

The co-signers of the agreement were Marcus Vinicius Pratini de Moraes, chairman for the Brazilian Joint Commission and executive president of Grupo Peixoto de Castro, and Dr. Richard L. Lesher, president of the Chamber of Commerce of the United States.

Also on hand were over 150 guests,

A COUNCIL IS BORN—*Dr. Richard L. Lesher of the U.S. Chamber of Commerce (left) and Marcus Vinicius Pratini de Moraes, acting for Brazilian business organizations, sign the agreement forming the Brazil-U.S. Business Council. Observing at center rear are U.S. Under Secretary of Commerce James A. Baker III and Brazilian Planning Minister Joao Paulo dos Reis Velloso.*

AT SAO PAULO EXHIBITION—*Among visitors to the U.S. exhibition entitled MECANICA 75 were (from left) Deputy Director Robert G. Shaw of the Bureau of International Commerce, Sao Paulo State Secretary of Culture and Technology Jose Mindlin, and U.S. Ambassador to Brazil John H. Crimmins.*

Brazil's December import control measures provide, among other stipulations, that importers must now keep on 360-day interest-free deposit an amount equal to 100 percent of f.o.b. value of most imported products. This requirement is waived, however, for certain items, including capital goods of types not produced in Brazil for which the foreign supplier provides credits with a maturity of not less than five years. For an English translation of the measures, write for document DIB 76-01-001 from the National Technical Information Service, Springfield, Va. 22151. A check for $3.25 should accompany each order.

including representatives of business, government and international organizations and 20 chief executives of Brazilian companies who traveled to Washington with Minister Velloso.

Dr. Lesher said the Council would "be a major step to strengthen trade and industrial cooperation between the two countries."

Total U.S.-Brazilian trade in 1975 amounted to approximately $4.5 billion. The United States is Brazil's largest trading partner while Brazil ranks within the top ten trading partners of the United States. Brazil has the single largest amount of U.S. investment in Latin America.

Alabama Firms Find Business Potential In Brazil, Venezuela

Interest in Brazil in purchasing coal and in scrap recycling, and in Venezuela in agricultural equipment, lift trucks, and conveyors for handling ores and other raw materials was reported recently by a trade mission that visited Sao Paulo, Rio de Janeiro, and Caracas, organized by the First National Bank of Birmingham and the Alabama-Mississippi District Export Council.

In Brazil, demand for the types of equipment offered by the mission was limited by restrictions on non-essential imports imposed for balance-of-payments reasons. However, the members found immediate potential primarily in coal and scrap-related activity. In Venezuela, on the other hand, with a substantial trade surplus stemming chiefly from oil exports, the group found a broader based potential.

One of the Birmingham Bank's vice presidents returned to the area a month after the conclusion of the mission to further pursue leads. The group had the assistance of the U.S. Department of Commerce.

Equipment Needed For Mexican Rail Projects

Mexico is now engaged in a substantial improvement and expansion of its railroad system. Current plans call for the accomplishment of no less than four major rail projects during 1976-79 at a cost in excess of $400 million for rolling stock, shop and track equipment alone. Since much of the equipment must necessarily be procured from foreign sources of supply, U.S. railroad equipment manufacturers should find numerous sales opportunities in Mexico. Products enjoying the greatest demand range from electrical signal equipment, car identifiers, and defective equipment detectors to telecommunications equipment.

For further information on the Mexican railroad market contact the Office of International Marketing, Room 4031, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-3636.

Maine U. To Hold Sessions On Selling In Arab Nations

A National Arab-American Marketing Conference sponsored by the University of Maine, is scheduled for Aug. 2-6 on the University campus, at Orono, Maine. The conference will provide specific know-how to U.S. firms interested in selling goods and services in Arab nations.

The University is assembling a conference "faculty" composed largely of English-speaking Arabs including governmental officials, distributors, and purchasing agents from each of the petroleum exporting countries. For information or registration forms, write: Arab-American Marketing Conference, 22 Coburn Hall, University of Maine, Orono, Maine 04473.

Three Additional U.S. Firms To Open Offices In Moscow

Three U.S. firms were recently accredited by the USSR Ministry of Foreign Trade to open offices in Moscow: Cooper Industries, Chemical Construction Co. (Chemico) and Ingersoll-Rand. This brings the total number of American corporations with accredited offices in Moscow to 22.

The other firms are: American Express, Arthur Anderson and Co., Bank of America, Brown and Root, Inc., Caterpillar, Chase Manhattan Bank, Dow Chemical, Dupont, Engelhard Minerals.

Also, First National City Bank, General Electric Co., Hewlett-Packard Co., Honeywell, Inc., IBM, International Harvester, Occidental Petroleum, Pan American World Airways, Pullman Corp., and Satra Industrial Corp.

The U.S.-USSR Trade and Economic Council also maintains a Moscow office.

Plovdiv Consumer Goods Fair To Be Held In November

The Bulgarian Chamber of Commerce and Industry plans to organize new specialized exhibits for consumer goods to be held annually in the fall. The first such exhibit, scheduled Nov. 1-8 in Plovdiv, will center around textiles, knitwear, ready-made garments and clothing; shoes, handbags and leatherware; jewelry, passementerie, and buttons; and perfume.

Interested companies should contact the Bulgarian Chamber of Commerce and Industry, 11A Stamboliiski Blvd., Sofia, Bulgaria, or the Bulgarian Commercial Office, Suite 1501, 50 E. 42nd St., New York, N.Y. 10017; phone 212-661-1252.

Multilateral Trade Negotiations

This article is another in a series of progress reports on the multilateral trade negotiations, as prepared by the Commerce Department's Office of International Trade Policy.

GENEVA

The NTM **Subgroup on Technical Barriers to Trade,** in its third meeting Jan. 27-Feb. 6, continued its work on the text of a draft standards code. The subgroup had agreed last May to use a draft standards code, which had been developed from 1971 to 1973 by a working group of the former GATT Committee on Trade in Industrial Products, as a basis for future negotiations.

At the meeting, a number of proposals for amendments and clarifications to the draft code's operative provisions were accepted. The subgroup also succeeded in narrowing the alternatives under consideration for those provisions on which agreement was not reached at this meeting. The developing countries participated significantly. A number of LDC proposals on key provisions were presented and examined at great length with little definitive agreement.

The subgroup had agreed last May to examine the applicability of the standards definitions of the Economic Commission for Europe (ECE) for the draft code. As of this January/February meeting a decision on the substance of these basic definitions has not yet been reached. The subgroup has agreed to submit observations on necessary modifications in the ECE definitions to the International Organization for Standardization (ISO).

The **MTN Group on Agriculture** has agreed to undertake a process of information, examination and dialogue with regard to all tariff and nontariff measures affecting agricultural products other than those covered by the subgroups on dairy, meat and grain. Participating countries are to notify the GATT Secretariat of actions on any such measures.

The group, at a mid-December meeting, also agreed that bilateral consultations would follow such notifications. The U.S., which has already made notifications on quantitative restrictions on agricultural products under procedures adopted by the MTN subgroup on quotas, will be making further notifications.

This notification procedure will also permit developing countries to notify GATT of developed countries agriculture trade restrictions that concern them, and to consult with those countries. It will permit nations to have detailed talks to lay the groundwork for negotiations affecting agriculture products without prejudice to the question of where such negotiations may be carried out (whether in connection with the Tariffs Group, Nontariff Measures Group or elsewhere). The results of the consultations, which will be held once countries notify trade restrictions of particular interest, will be communicated to all other relevant MTN groups and subgroups.

The **MTN Subgroup on Grains,** at its fourth meeting Jan. 22-29, began to examine grain trading and support systems and policies for Japan, Switzerland, Austria, the European Common Market, U.S., Spain, Finland, Sweden, Norway, Romania and Argentina. It continued discussions of the three interrelated topics of liberalization, stabilization and LDC treatment. Common Market spokesmen elaborated on their proposal for a commodity agreement on grains by responding to questions of a number of delegations, including the U.S. Next meeting: week of May 24.

The next meeting of the **Tropical Products Group,** beginning Feb. 16, is to focus on the question of the format and circulation of negotiating offers. The U.S. has concluded a series of bilateral discussions with countries that made requests for U.S. concessions, indicating in such discussions its preliminary responses. The U.S. also has been preparing its Tropical Products offer list. Extensive consultations with the affected industry, agricultural and labor groups are being held, and after Presidential approval the U.S. offer list will be tabled in Geneva.

The seventh session of the **UNCTAD Special Group on Preferences** Jan. 5-16 focused on the recently implemented U.S. generalized system of preferences (GSP). While appreciating the duty-free and quota-free aspects of the U.S. scheme, the less developed countries nonetheless criticized the restrictions on country eligibility, particularly the exclusion of OPEC members and the competitive need limitations. They noted the primary role which they expect GSP to play in their comprehensive strategy to increase export earnings, and are expected in coming international meetings to press for an unlimited permanent GSP for all products, from all developed countries.

WASHINGTON

President Ford announced Jan. 8 the appointment of seven persons to his **Advisory Committee for Trade Negotiations,** to join the 36 appointed Nov. 11:

Frank E. Fitzsimmons, International Brotherhood of Teamsters, Washington, D.C.; Paul Hall, International Seafarers Union of North America, Brooklyn; Samuel C. Johnson, S.C. Johnson and Son, Inc., Racine, Wis.; Donald M. Kendall, PepsiCo, Inc., Purchase, N.Y; Bruce N. Lynn, Gilliam Gin Co., Gilliam, La.; Buck Mickel, Daniel Construction Co., Greenville, S.C.; and Myer Rashish, Washington, D.C.

The **Industry Policy Advisory Committee (IPAC),** meeting Feb. 25, will discuss, among other issues, the tropical products negotiations and various tariff-cutting formulas.

A full round of **Industry Sector Advisory Committee (ISAC)** meetings has been scheduled for Feb. 17-23, with five or six ISACs joining each day in plenary sessions and then holding individual meetings. Subjects: progress of MTN, briefings on possible tariff-cutting formulas, preliminary reactions to the recommendations made in the Industry Sector Advisory Reports. The ISACs will also begin the process of fine-tuning their recommendations, including the assigning of priorities to negotiating objectives.

ISAC 12 (Non-Ferrous Metals and Products) met Jan. 7 to review and make recommendations on the Canadian MTN proposal for liberalized trade in copper products. ISAC 11 (Ferrous Metals and Products) met Jan. 11 to review issues of standards and subsidies/countervailing duties, and discuss possible revisions to its advisory report. The steering group of ISAC 19 (Consumer Electronic Products) met Jan. 19 and prepared comments on the draft GATT standards code. The full committee will review the comments when it convenes this month.

As part of the **Pre-Negotiation Procedures,** the Commerce Department is developing, with ISAC assistance, priorities on reciprocal concessions the U.S. might seek from countries asking U.S. concessions. An example: reduction of a tariff on articles of export potential, or agreement to bind an already modest tariff against future increases. Another example: reducing the trade restrictive effects of nontariff measures.

Export priorities are currently being developed for improved access to the markets of the 34 developing nations taking part in the MTN Tropical Products negotiations. The U.S. is working for early agreement in this area in fulfillment of the commitment in the Tokyo Declaration to give it priority consideration. Progress so far indicates this will be the area of first concrete negotiations involving the U.S. and the developing nations. Similar export priority lists will be established later in other areas.

The **Agriculture Policy Advisory Committee** met Dec. 4, discussing the standards code proposals, subsidies/countervailing duties and tropical products negotiations, and will meet again Feb. 24. The **Agriculture Technical Advisory Committees** will meet Feb. 18-19. The **Labor Sector Advisory Committees** met Jan. 27-29 and concentrated on advice concerning nontariff measures.

DATA COMMUNICATIONS SHOW—*For Ampex Corp., P. de Bilderling (left) explains the company's disk drives to customers at Paris U.S. Trade Center exhibition.*

U.S. Data Communications Equipment Makers See Sales Climbing In France

Manufacturers of data communications and peripheral equipment are finding a ready market for their products in France. A recent exhibition of such material at the U.S. Trade Center in Paris resulted in off-the-floor sales in excess of $1.5 million. In addition, the exhibitors estimate their sales over the next 12 months at almost $49 million.

By contrast, a similar show held at the Center in March 1973 recorded off-the-floor sales of less than $1.2 million, and projected sales over the following 12 months of $27.1 million.

At the October 1975 data communications and peripheral equipment exhibition, 72 U.S. firms presented the latest and most sophisticated products of the American telecommunications and data transmission industry. Products shown included modems, concentrators, multiplexers, switching systems, minicomputers, interactive terminals, CRT displays, COM systems and accessories, memory systems, tape handlers, discs, floppy discs, testing and measuring equipment, storage systems, digitizers, and other sophisticated data communications systems. Several exhibitors took advantage of the show to introduce new products.

Exhibitor comment during the event included these observations: Graphic displays have only moderate sales potential at present. . . . U.S. magnetic tape drives have only one strong French competitor. . . . New printer systems are in demand as there is little production in France—true also for CRT displays and video set systems. . . . The microfilm and microfiche industry is expected to develop because of increased need—by banks, government agencies, and industries—for data storage, space in offices, and rapid availability of information. . . . The market is stagnant or contracting for tape drives, as the trend is toward disk drives. . . . Perforated tapes are being replaced by floppy disks.

Banks are the main end users of terminals and in the coming three years will be using 3,000 to 4,000 terminals. Half of this market is expected to be absorbed by French manufacturers and the remainder, by U.S. manufacturers.

France ranks third in Western Europe in the use of data communications and related equipment and the demand is substantial—$196 million during 1971-74. It is expected to increase to $365 million during 1975-78.

With continuing strong sales efforts and after-sales support, the United States should be able to maintain its strong position in this important and expanding market.

Electronics Show, Paris

Manufacturers of electronic components, production machinery and special materials for the electronics industry may obtain information about exhibiting in the Salon International des Composant Electronique to be held in Paris, April 5-10. Write: French Trade Shows, French Chamber of Commerce, 1350 Avenue of the Americas, New York, N.Y. 10019.

BIG SHOW BETWEEN SHOWS—*Strong demand for U.S. laboratory equipment was demonstrated at LAB 75, a year-end multi-company "between-shows promotion" at the Paris U.S. Trade Center. With 25 participants (12 new to market) representing 56 U.S. firms, 12-month sales projections amounted to $4.9 million. Above, company representative (second from right) explains to visitor from French National Center for Scientific Research equipment made by Electron Fusion Devices.*

Australian Hospital Growth Points To More U.S. Medical Equipment Sales

U.S. suppliers of medical and laboratory equipment should make substantial gains from the Australian Government's major commitment to new hospital construction throughout the country.

Exhibitors displaying such equipment at the Sydney U.S. Trade Center recently predicted a rising market share for U.S. suppliers. The United States, recognized as a world leader in medical electronics, is well represented in the Australian market with high-quality, competitively priced equipment. Promotion, service, back-up and customer relations were all reported to be good.

Particularly in evidence among the products on display were machines for automating procedures in all areas of laboratory medicines—for example, biochemistry, hematology, microbiology, serology. The 14 exhibitors representing 22 companies reported their off-the-floor and projected 12-month sales at more than $2 million.

Because of the complexity and cost of much modern-day medical technology, the larger institutions offer the most favorable buying potential. With few exceptions, medical research and testing is carried out in clinics attached to major public hospitals and universities. These institutions, together with a small number of government research laboratories, comprise 75 percent of the market for sophisticated medical and laboratory equipment.

There is a growing specialization particularly in surgery and laboratory medicine, necessitating sophisticated equipment whose accuracy and speed are essential if the best standards are to be maintained. It is expected that imports of electro-medical equipment will show substantial growth in both percentage and value terms. Market expansion will focus on cardiological, respiratory, and patient monitoring equipment, and systems and equipment for automating laboratory procedures.

Australia's market for medical and laboratory equipment is estimated at $50 million annually, of which some 70 percent is supplied by imports. These imports are purchased from a wide range of countries including the United States, Germany, United Kingdom, Japan and Switzerland. The U.S. share has tended to remain fairly steady at around 32 percent. The market shares for the United Kingdom and Germany have been falling while those of Japan and Switzerland have been rising.

Though the exhibition was medically oriented, many exhibitors commented that they gained a valuable insight into the needs of other potential markets for their equipment, such as industrial and research laboratories to which they usually do not make representation.

LATEST DEVELOPMENTS—*At Sydney U.S. Trade Center exhibition, Derek Moores (right) demonstrates the Clay Adams blood chemistry analyzer.*

U.S. Microwave Products Lead, Exhibitors At Tokyo Show Report

Exhibitors at the Tokyo U.S. Trade Center recently reported that U.S. microwave components and instrumentation are, in many product areas, some five years ahead of Japanese products in technology and application. They also found a general belief among microwave industry original equipment manufacturers that U.S.-made products offer better value than Japanese counterparts.

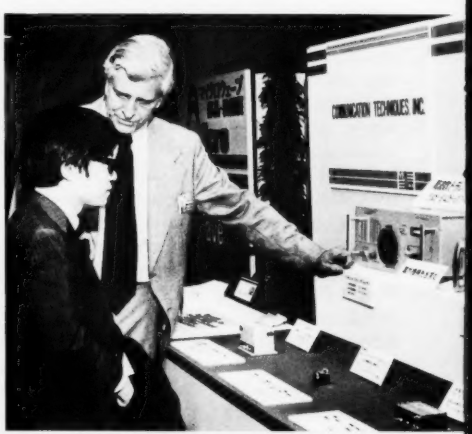
The U.S. exhibition featured a state-of-the-art presentation of microwave equipment by 49 American manufacturers. The show concentrated on the advanced microwave technology needed by the Japanese market, including spectrum analyzers, high power signal sources, coaxial/waveguide mixers, microwave semiconductors and transistors, integrated circuits, synthesizers, octave tuning filters, millimeter wave sweepers, doppler radars, sweep frequency measurement systems, wide-band transformers, multiplexers and other components and instrumentation.

This presentation is said to be the only exhibition in Japan devoted exclusively to microwave equipment. Interest was thus exceptionally high and the exhibitors were well-pleased with the new sales leads generated.

The participating U.S. companies were responding to a market in Japan for microwave equipment expected to reach $441 million by 1978, of which $147 million will be imported. The United States can be expected to supply equipment worth $131 million or 90 percent of all imports. The U.S. exhibitors collectively sold or projected sales of microwave components and instrumentation for the following year in Japan valued at almost $6 million.

Based on comments from exhibitors and visitors, as well as other sources of information, the following types of U.S.-made microwave equipment appeared to be among those with the best sales potential: equipment with frequency range up to 30 GHz for commercial use and from 30 GHz to 1,000 GHz for R&D use; compact-sized solid state components, millimeter wave sweeper suppliers; spectrum analyzers; coaxial waveguide mixers; synthesizer network analyzers; digital thermoelectric power meters; doppler radars; microwave frequency stabilizers; radiation and isotropic radiation monitors; phase locked Gunn effect sources.

More than 1,600 visitors from the Japanese Government, education and research institues, trade associations, communication equipment manufacturers, electronics and electrical equipment manufacturers, trading companies, television and radio broadcasting, engineering companies and general contractors, agents, distributors, and information media attended the exhibition.



MICROWAVE SHOW, TOYKO — *M. Young, Communication Techniques, Inc., discusses his company's equipment.*

Worldwide Business Outlook

Oman Draws On American Expertise In Broadening Range Of Activities

Oman continues to grow in importance, not only as an export market but as an opportunity for American firms to provide technical assistance in infrastructure development. Prospects are excellent for the sale of oil-field equipment, electrical appliances, foodstuffs, and building materials to the Near East nation, according to the U.S. Embassy in Muscat.

The petroleum sector remains the mainstay of Oman's current economic prosperity. Government operating revenues, almost entirely derived from petroleum, rose 28 percent in 1975 from 1974, while overall per capita income continued its substantial climb. The Oman Government now controls 60 percent of Oman's only oil-producing company, Petroleum Development (Oman) Ltd.

Petroleum production increased in 1975 and is expected to hit a peak during 1976. Output increased from 296,000 barrels a day in 1974 to an average of 340,000 barrels a day in 1975. Production should reach an average of 380,000 barrels a day in 1976 but will decline thereafter unless there is substantial production from new fields. Known reserves are expected to be depleted within 16 years. Although not a member of OPEC, Oman generally follows pricing decisions of that organization and plans to match the 10 percent price increase for crude oil initiated by OPEC in October.

Search spreads offshore

Offshore, Sun Oil Co. has already found some indications of a possible oil-bearing structure near Masirah Island, and the company plans further drilling during 1976. The French oil firm ELF/ERAP is drilling off the shore of the Musandam Peninsula. The Oman Government is negotiating the resale to foreign oil companies of the Sunaina field.

A large portion of Oman's petroleum revenues are used for development of economic infrastructure, which was almost nonexistent until 1970. Education, health and housing projects continued the rapid growth of recent years, giving the capital area the appearance of a construction site. Road construction continues apace both along the coast and in the interior, with 500 kilometers targeted for construction in 1975-76. Facilities at the modern international airport at Seeb (Muscat) are being expanded, and new airports are being built in Dhofar and several sites in the interior. Seven power plants are being constructed in towns outside the capital.

A satellite telecommunications system has just been completed near the capital, and a new television station has been constructed in Salalah, Dhofar, in addition to the color TV network near Muscat. Despite construction of a 1.5 million-ton port near the capital two years ago, port congestion and bottlenecks in Oman are becoming worse, and construction of new ports north of Seeb and near Salalah are under consideration. A large desalinization/power plant was completed in October near Seeb Airport.

Agriculture, which has traditionally involved a modest growing of dates, limes, lucerne, wheat and livestock, is a priority area for increasing output in order to reduce rising imports of foodstuffs.

The Omanis hope to diversify the economy away from its almost exclusive dependence on petroleum by developing such areas as fisheries, mineral resources and light industry. A five-year development plan for 1976-80 is under discussion. The government is giving particular encouragement to foreign firms which will produce commodities that reduce the need for imports. Tile, furniture and bottling plants have already come onstream, and a 300,000-ton capacity cement plant, a flour mill, and a grain storage facility are under construction. A $3 million contract has been awarded to a New Zealand firm to continue introduction of modern methods in ocean fishing and fish products' storage.

Prospects for the commercial production of copper are encouraging, and there are indications of commercially exploitable amounts of manganese, asbestos and other minerals. While government development programs continue to provide the primary impetus to economic growth, private merchants are starting to broaden their activities away from traditional trading toward investment in real estate, repair facilities and light assembly plants.

Regulation of business by the Oman Government has increased in recent years. Participation by Omani citizens in all types of business is now required by law. While Oman's economic growth has largely depended upon expatriate managers and workers to compensate for the acute labor shortage, the Oman Government is now pressing for gradual replacement of expatriates by Omani citizens. The government has liberalized its tax laws to allow a five-year tax holiday for priority industries. At the same time, the government is imposing quality control standards on new businesses. The Oman Government has usually preferred participation in joint ventures to wholly-owned government firms.

Public sector and commercial imports have risen rapidly in the last few years to match the increase in petroleum revenues, although government budget stringencies and a satiation of demand for luxury goods kept imports and exports roughly in balance in 1975. Major imports consisted of foodstuffs, consumer durables, heavy machinery and transportation equipment.

U.S. commercial exports and management services in Oman have shown enormous growth in recent years. Omani firms as well as the government have indicated a desire to purchase what they regard as reliable and high-quality American technology. An Omani firm or citizen is required as agent in order to market products in Oman, and it is generally prohibited to sell a product there through an agent based elsewhere.

Many American contributors to Omani development are concentrated in the petroleum and mineral sectors. Besides Sun Oil with its offshore drilling program, a number of other American oil companies are exploring investment in oil and gas drilling. Williams Brothers International of Tulsa, Okla., and Halliburton Co. of Duncan, Okla., continue to provide essential expertise in maintaining the pipelines. Marshall Exploration of Houston, Tex., has already found significant reserves of copper which may be large enough for commercial exploitation. Tetra Tech of Arlington, Va., is advising the Ministry of Agriculture, Minerals, Fisheries, and Petroleum on utilization of Oman's hydrocarbon resources.

U.S. is involved in other areas

American expertise is also helping to develop Oman's infrastructure. Pan American Airways now manages Seeb International Airport, and the Federal Aviation Administration has signed a five-year contract to provide personnel, licensing, communications and airport planning experts for the Oman Directorate of Civil Aviation. Louis Berger Co. of East Orange, N.J., provides consulting services on road construction. A New York-based construction firm, Grove International, has won a $30 million contract to build a road from near the capital to an isolated eastern fishing village. The Oman Government has selected Teleconsult of Washington, D.C., to advise the Communications Ministry on operation of the telephone system.

The American banking community is showing growing interest in Oman. First National City Bank of New York established a branch in Muscat in August, and a number of American banks have participated in loans to the Oman Government. A representative of Riggs National Bank of Washington, D.C., serves as an adviser to the Central Bank of Oman.

Malaysia Expects Early Recovery From Brief Dip

Malaysia's GNP grew by 2.4 percent in market prices in 1975, a marked decline from the 21.4 percent growth in 1974. The slowdown was primarily due to depressed demand in the United States, EEC countries and Japan for the major primary commodities of Malaysia. Business confidence in Malaysia was eroded by the uncertainties in the world economy which adversely affected private investment. Real consumption expenditures declined; this factor, combined with small increases in food prices, did reduce the rate of inflation to 6 percent in 1975.

Malaysia's economic outlook for this year and next is much brighter, according to the U.S. Embassy in Kuala Lumpur. Exports of the principal primary commodities (rubber, palm oil, timber, petroleum and tin) are expected to be the leading edge of Malaysia's economic upturn in 1976 and 1977. The upturn depends on the pace and strength of the recoveries in the industrial countries. The government estimates real output to increase 6 percent in 1976 and climb even further in 1977.

More manufacturing activity

The manufacturing sector, which started to recover in 1975, is expected to become more buoyant in 1976 and increase its output about 8 percent. Exports of manufactured goods are projected to increase by about 15 percent in 1976.

Private sector expenditures are forecast in 1976 to increase about 5 percent in real terms. Private investment should be up by 5 percent, with particular improvement in investment in machinery and equipment. Private consumption expenditures should increase about 5 percent in real terms as a result of higher consumer confidence following improvement in export earnings and stabilization of employment. Inflation is forecast to stay at about 6 percent in 1976 and 1977.

Imports are forecast in 1976 to increase about 5 percent in real terms. Investment goods are expected to increase by 14 percent and intermediate goods by 20 percent in anticipation of increased investment. Consumer goods are expected to increase moderately.

Public sector expenditures are estimated to increase by 6.5 percent in real terms and 9 percent in nominal terms. These estimates do not include expenditures of funds in 1976 under the Third Malaysia Plan (1976-1980), which is being finalized and will be introduced in Parliament in early 1976. Development expenditures could increase significantly with introduction of the Third Malaysia Plan. For the first time the Federal Budget is planned for a deficit (small) in the current operating portion, a departure from past policy of being in surplus or in balance.

U.S. firms producing high technology equipment will find a ready market in Malaysia's expanding economy. Areas of special interest include equipment for ports and harbors, airports, telecommunications, electric power generation, agriculture and fisheries and food processing. The Embassy believes that especially good 1976 sales prospects exist in the following categories:

Laboratory Instruments: Demand is expected to increase notably during 1976-79, with total imports reaching US$37 million in 1979. U.S. share of the market was 42 percent in 1974. U.S. suppliers should achieve sales in excess of $18 million in 1976.

Business Machines, Equipment, and Systems: A limited but growing market exists for sale of business machines and systems. Malaysia suffers from a shortage of trained personnel in this area.

Timber Processing Equipment: Potential for sales to the Malaysian timber industry is good, although the industry has been in a slump for the past 12-18 months. Indications are that sales of timber and processed timber products are picking up, as all of the sawmills are back in production. Significant opportunities should occur with the move towards integrated operations.

Other excellent prospects exist in communications equipment, air-conditioning and refrigeration equipment, process control instrumentation and metalworking and finishing equipment.

As part of its continuing program to expand U.S. exports to Malaysia, the Embassy, in conjunction with the U.S. Department of Commerce, will offer a timber industry trade mission in March; a trade exhibition featuring materials handling equipment, packaging machinery and equipment, and building and construction equipment; and a trade mission on commercial fisheries equipment in July.

Successful exporters to the Malaysian market find that if they cannot set up their own office in-country, the best guarantee of success is a reputable and aggressive local agent. Ideally, the agent will know something about the product line before representing a firm. More importantly, he must be able to provide the all-important factor of after-sales service. American firms have often been accused (sometimes justifiably so) of viewing the Malaysian customer as a one-time sales prospect. Firms wishing to sell to Malaysia over the long-term are well advised to locate a reputable local agent. The Embassy and the Commerce Department will be pleased to assist any American firm in locating such an agent.

Costa Rica, Panama Announce Alterations In Import Tariffs

In an attempt to correct the balance of payments deficit by slowing the growth in imports and stimulating exports, the Costa Rican Government has announced temporary import surcharges on certain products and revised the list of articles subject to a consumer tax. Effective Jan. 3, 162 types of products will be subject to import surcharges ranging from 10-50 percent of c.i.f. value. Import surcharges will be levied as separate charges after all duties and consumer taxes have been levied.

The Government of Panama has announced import tariff revisions which reflect its intention to provide attractive prices on luxury items as an incentive to tourists. The new law, which went into effect Jan. 1, removes import tariffs on a long list of luxury consumer goods. Additionally, the law lowers the import tariff on several categories of radios and other sound equipment and establishes a new category for electronic rechargeable calculators.

Further details on each of these tariff changes are available through the Country Marketing Manager, Mexico/Central America, Office of International Marketing, U.S. Department of Commerce, Washington, D.C. 20230.

Chile Lets Importers Defer Duties For Certain Equipment

Chile now permits importers of certain equipment to defer payment of customs duties, taxes and other business charges for a seven-year period. These charges will be recorded in dollars at the rate of exchange at the time of import. No interest will be charged during the deferral period. The amount owed may be reduced annually by the ratio of exports to total sales of goods produced with the imported equipment. This reduction may not exceed 50 percent of the original deferred duties in any one year, nor may the reduction exceed the value of the goods exported. Equipment eligible for the deferral must be imported before Dec. 31, 1977. Under Decree 1341 a list of specific capital goods eligible for deferred import duties was published in the *Diario Oficial* of Dec. 12, 1975. Loan copies of the Decree are available upon request from the Office of International Marketing, Bureau of International Commerce, Washington, D.C. 20230; tel: 202-967-4545.

E. Europe Nations To Allow Foreign Business Offices

Possibilities for U.S. business presence in Eastern Europe have been broadened by decrees in Czechoslovakia and Bulgaria allowing the establishment of some foreign business offices in those countries. Previously, foreign representation was possible only through state-employed agents contracting with foreign firms.

In Czechoslovakia, foreign firms may still elect to use official state agencies to represent them, but they are not required to do so. Those whose applications are approved will be allowed to work independently of any Czechoslovak firms or representation organizations, though they will be expected to confine their business activities primarily to the Czechoslovak agencies set up to handle foreign trade. Authorizations must be renewed yearly.

An application to establish an office must include, among other things, detailed information on the firm's organization and structure and the activities which it proposes to pursue in Czechoslovakia. Applications should be acted upon within three to five weeks of their submission, after which successful applicants can undertake negotiations with the Czechoslovak Government concerning housing, office space and local staff. Tax liabilities, foreign exchange controls and related matters will not be subject to negotiation.

Chances for approval of an application will depend on the extent of a firm's past business dealings with Czechoslovakia and the degree to which the equipment, technology and services it offers are in harmony with Czechoslovakia's long-range development plans. Given the shortage of housing and office space in Prague, it is difficult to see how a large number of applications can be approved until a proposed World Trade Center is opened, in perhaps three or four years. As an alternative, firms might consider locating in Bratislava, 45 minutes by car from Vienna and a center of Czechoslovakia's growing petrochemical industry.

The U.S. Embassy in Prague judges that American firms with the best chances of obtaining authorization to open offices are computer and chemical companies. Banking, financial and transport enterprises are not covered by the recent decree. Firms interested in making application should write to the Czechoslovak Ministry of Foreign Trade, 20 Politickych veznu, 112-49 Prague 1 (telex 121-808, 121-077, 121-489).

In Bulgaria, foreign firms may open commercial offices within the framework of the existing state representation agencies. Each office will operate under the "guidance and control" of the agency which represents the foreign firm. The representation agency will secure office space and hire Bulgarian personnel.

Permits for opening offices will be issued for periods of up to two years and may be extended. Preference will be given to those foreign firms that have concluded economic, production and technical cooperation agreements with Bulgarian enterprises. Firms that have concluded agreements for "large mutual deliveries" will also be eligible.

Applications to open an office should be submitted to the Ministry of Foreign Trade, 12 Sofiiska Komuna St., Sofia. Applications must include information on agreements concluded with Bulgarian enterprises, outlook for business development, and number and positions of foreign citizens and Bulgarians to work at the office. The number of foreign employees must not exceed the number of Bulgarian employees.

Honduran Decree Affects Taxes On Foreign Investment Earnings

In a decree published Dec. 8, the Government of Honduras has modified some aspects of the country's tax structure. Among the changes of interest to foreign investors are the following: earnings obtained from a Honduran source by nonresident or non-domiciled individuals or corporations will be taxed at rates ranging from 5-15 percent regardless of whether or not they are remitted; the tax on income from fixed assets has been increased to 10 percent (from 5 percent); profits obtained by foreign firms from branches, subsidiaries, agencies, legal representatives, etc. operating in the country are now taxed at 15 percent—previously, these profits were not taxed.

A copy of the new tax reform legislation, in Spanish, and a translated summary are available from the Country Marketing Manager, Mexico/Central America, Office of International Marketing, U.S. Department of Commerce, Washington, D.C. 20230.

Calendar For World Traders

Feb. 17—Memphis—World Trade Club meeting, Schlitz Brewery.

Feb. 17-18—Washington, D.C.—Conference on Latin America: Business Climate for 1976. Sponsors: School of Advanced Int'l Studies, Johns Hopkins Univ.; Int'l Management and Development Institute; Council of the Americas.

Feb. 18—Reno, Nev.—Seminar on Int'l Telephone Marketing Techniques. Sponsored by Nevada Bell.

Feb. 18—Akron, Ohio—Int'l Trade Council seminar on Doing Business in Venezuela, Akron City Club. For information, 216-376-3003.

Feb. 19—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Summit Hotel.

Feb. 19—Chicago—Int'l Trade Club meeting, Hyatt Regency. World Bank official Henry J. Costanzo will discuss The Developing Countries in an Interdependent World.

Feb. 19—New Orleans—Workshop on Metric System, Louisiana District Export Council.

Feb. 19-20—Austin, Tex.—University of Texas Law School Conference on Transnational Economic Boycotts and Coercion. James A. Baker III, Under Secretary of Commerce, will discuss Economic Aspects of Trade in the Middle East.

Feb. 23-24—Ann Arbor—Seminar on Marketing to the People's Republic of China. Sponsor: Graduate School of Business Administration, University of Michigan. For information, 313-763-1387.

Feb. 23-27—Cleveland—Exhibit of Forgings and Castings from Spain, Sheraton-Cleveland Hotel. Sponsors: Commercial Consular for the Midwest of the Embassy of Spain and Ministry of Commerce of Spain. For information, Commerce Cleveland District Office.

Feb. 24—Clarksville, Ind.—Kentuckiana World Commerce Council meeting, Indiana Night, Marriott Inn.

Feb. 25-27—New York—World Trade Institute seminars on Tax Aspects of Int'l Reorganizations, and Applying Organizational Development to Int'l Corporations.

Feb. 26—New York—First of four weekly lectures by Robert J. Alexander on Latin America and the Present World Crisis. Sponsor: Int'l Study and Research Institute, Inc., 212-877-8628.

Feb. 28—Cleveland—Seminar on American Trade Relations with Romania, Hungary and Yugoslavia, John Carroll Univ.

March 2—New York—FCIB Roundtable Conference on Int'l Finance, Credit, Collection and Exchange Problems, Summit Hotel.

March 3-5—San Francisco—Int'l Automotive Service Industries Show, Cow Palace. For information, Overseas Automotive Club, Inc., 212-725-1700.

March 4—Cleveland—World Trade Assn. luncheon, Mid-Day Club. Theme: Trade Opportunities in the Orient.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, and details on major construction and expansion projects.

Licensing, Investment Abroad

GERMANY — Country's largest service company in field of cooling and refrigeration seeks cooperation with U.S. manufacturers and exporters interested in leasing **cooling, refrigeration and deep freezing facilities for food and non-food items.** Facilities, in southern part of country, include refrigeration space for 30,000 metric tons net for temperature range of zero° Farenheit (minus 18° Celcius) to minus 22° Farenheit (minus 30° Celcius). Company can also offer additional services, such as warehouse, customs handling, food processing, and forwarding of merchandise from Benelux and German ports. Gesellschaft fuer Markt— und Kuehlhallen, P.O.B. 30, D-6800 Mannheim 71. P-76064.

1000 — CENTRAL AFRICAN REPUBLIC—U.S. firms are invited to discuss and apply for exploratory and concessional rights for development of **mineral resources** in area of the "Bangui Magnetic Anomaly." Additional information: Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76039. OPIC.

1044, 1099—BOLIVIA—Seeks U.S. investor to **develop mining concession** north of La Paz near Curva. Concession covers 250 hectares with adjacent 120 hectares also available. Property reportedly contains complex mineral of tin, bismuth, zinc, tungsten and silver; adjacent areas reportedly contain gold placer deposits. There are no serious geological studies of the site—in rough area, but road is under construction to open up region. Owner is farmer who wishes to sell mine while keeping small percentage. Interested investors, who may visit the mine, should contact Minerals Attache, U.S. Embassy, Banco Popular del Peru Bldg., Corner of Calles Mercado and Colon, Casilla 425, La Paz. Telephone 4-2355. P-76084. OPIC.

1452—ECUADOR—Seeks U.S. partner with technical know-how to process **bentonite.** Mine reportedly has 500,000 tons of bentonite and existing plant produces 100 tons per month, operated by firm established in 1971, with 25 employees. Investment in project will be considered only from technologically qualified source. Taxes in Ecuador would not exceed 4 percent. Dr. Hernan Chiriboga, President, La Compania Industrial y Minera Sucre S.A. (CIMSSA), P.O. Box 6017, Quito. P-76089.

1500, 1600—NIGERIA—Civil engineering, construction firm seeks joint venture. U.S. partner would provide $3-$4 million in construction equipment as its portion of joint venture. Company, presently in road and building construction and maintenance, operates throughout country and maintains branch office in Ikeja, Lagos State. Directors were educated abroad; have extensive experience with other companies. Company currently has contracts worth $8 million and is qualified to handle contracts worth $50 million. Official of firm is willing to travel to U.S. to negotiate with potential partner. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-76066. OPIC.

2000—FRANCE—Large, well established firm seeks joint venture arrangement for processing and canning **sweet corn.** Firm also interested in processing and canning any products for human or animal consumption. Company specializes in processing and canning fruits and vegetables, especially mushrooms and asparagus. Established in 1964, employs 300. Products are marketed in France and other European Common Market countries. For name and address of person to contact, write: Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76080. WTDR.

2499, 3499—BRAZIL—Seeks joint ventures to manufacture **aluminum and wood ladders, ironing boards and painters' and masonry tools.** Company presently produces 18,000 wood ladders annually at 1,300-sq.-meter plant in Botucatu. Market covers 8 Brazilian states. Firm believes there are good sales prospects for these products in Brazil and LAFTA countries. Manoel Coelho, Managing Partner, LIDER Ind. de Artefatos de Maderia e Metal Ltda., Caixa Postal 134, 18600 Botucatu, SP. WTDR. P-76041. OPIC.

2514, 2542, 3448—GERMANY—Firm interested in obtaining U.S. licenses for production of **metal partition walls** for sanitary applications, such as rest rooms, dressing rooms, etc.; **metal cupboards** for storage of clothing, and **collapsible green houses** and related gardening articles. Estblished 1907, employs 185. Mr. Horst, Pautzke, Dipl. Volkswirt, c/o Ludwig Wege & Co., D-3553 Coelbe/Lahn. Telephone, 06421-66223; telex, 0482330. P-76042.

2621 — INDIA -- Seeks technical know-how to manufacture **specialty papers.** Plans to produce **high strength extensible kraft papers, multi-wall sacks, electrical insulation papers, tissue paper, base papers for waxing, lamination and ledger, check and bond papers.** Cost of project estimated at $15 million; annual capacity, 10,000 tons. Uttar Pradesh State Government has agreed to supply raw material requirements. Presently, Indian firm manufactures cotton staple yarn, also owns electric arc furnace based steel plant. K. G. Jindal, Project Manager (Paper), Vardhman Spinning & General Mills Ltd., Plot No. 263, Sector 24, Faridabad 121001, Haryana. WTDR. P-76090. OPIC.

2650—SWITZERLAND—Small manufacturer of **packaging materials** seeks to expand operations. Interested in licenses to produce novel types of cardboard packaging for food products and bottles; foamed packaging including related tools, which would be imported; and other products involving use of cardboard and similar materials and foamed plastic. Swiss concern serves local market, northern France, southern Germany. Most of its production is automated. Employs 20. Guido Markowitsch, Willy Markowitsch, In den Ziegeloefen 20, 4015 Basel. P-76043.

2741—UNITED KINGDOM—Well established importer and distributor of U.S. catalogs and encyclopedia seeks distribution or licensing rights for **hard information publications, proceedings/reports of learned societies, standards, reference books, updated material, service manuals/catalogs, particularly in engineering disciplines.** Joint venture arrangements also of interest. Present range of publications sold in U.K. and worldwide with exception of the Americas. A. H. David Rowse, Chairman, London Information (Rowse Muir) Ltd., Index House, Ascot, Berkshire SL5 7EU. P-76065.

2834, 2879—FRANCE—Seeks licenses to manufacture **pharmaceutical specialties; medical products with dietetic or cosmetic applications; hospital supplies such as polyurethane foam bandages, first-aid dressings, non-woven products, incontinence aids; dental products such as adhesives, polishing compounds, anesthetics; veterinary specialties; animal feed additives; pesticides; synthetic biochemical processes for manufacture of antibiotics and enzymes.** Established in 1928, firm is a leading manufacturer of drugs, also organic and inorganic chemicals for pharmaceutical industry. With many subsidiaries in France and abroad, company ranks 25th in France's "Fortune 500". It employs 6,400, had 1974 sales of 724 million francs. Francois Lacoste, ROUSSEL-UCLAF, 35 blvd. des Invalides, 75007 Paris. Cable: ROUSSELUCLAF-PARIS; telex, 200675 Roussel; telephone, 555-91-55. P-76074.

2834—SWITZERLAND — Seeks licenses to manufacture **digestive system preparations**—enzymes and antacids, including acid neutralizing products and with coating functions. Also **pharmaceuticals which act on skin, cardiovascular system and respiratory system.** Also, **pharmaceuticals acting on central nervous system and sense organs—in particular, CNS stimulants.** Firm is well established producer of pharmaceuticals, OTC and ethical preparations, also consumer household chemicals. Including affiliated companies, has 300 employees, annual sales of $16 million. R. Duckeck, Iromedica AG, Haggenstr. 45, CH-9014 St. Gallen. P-76081.

2879 — ISRAEL — Seeks know-how through license or joint venture to produce **pesticides and agricultural lures.** Firm employs 30, has annual sales of

$750,000, consisting mainly of exports to Mediterranean and Southeast Asia countries. Company specializes in manufacturing insecticides that take into account ecological considerations. Company would be prepared to purchase basic chemicals from American partner. Is also willing to represent U.S. firm in Israel on condition of being able to obtain technology in future. Ely Boger, General Manager, Tamogan Ltd., 3 Hakhashmal St., Tel Aviv. WTDR. P-76075. OPIC.

3079 — GERMANY — Seeks licenses to manufacture **injection molded precision plastic parts** used in automobile, electrical equipment and construction industries. Firm has 25 injection molding machines with capacity up to 300 tons pressure and is known for its precision work and high quality standards. Has 60 employees, annual sales of $1.4 million. Peter Mascher, King-Plastic, Arnold Knipping KG, Beckestrasse, 527 Gummersbach 1. P-76088.

3293 — YUGOSLAVIA — Manufacturing enterprise seeks technology, equipment and expertise in construction of plant to produce **gaskets and gasket materials** for internal combustion engines. Desires to produce total annual capacity of 1.5 million pieces of gaskets for heads, cylinders and exhaust pipes of internal combustion engines—for passenger cars, trucks, buses. Firm would prefer joint venture, with foreign partner investing as much as 49 percent in technology and equipment. However, firm is willing to entertain offers of direct sales and licensing opportunities. Value of plant as a whole is estimated at $6 million, with foreign content to be purchased having an estimated cost of $2.5 million. Employs 670; annual sales, $6 million. Marketing territory includes West Germany, France, Italy, England and all East European countries. Correspondence in English acceptable. Ing. Zivota Pavlovic, Dipl. Masinski Inzenjer, Jugoazbest, P.O. Box 100, Rasa Vukad Ionvica 5, 11000 Belgrade. P-76076. OPIC.

3321 — PHILIPPINES — Firm is interested in entering into joint venture arrangements with U.S. companies for **expansion of its foundry operations,** such as manufacture of centrifugally cast iron pressure pipes and fittings (gray and ductile iron); cast iron soil pipes and fittings and job castings of machinery parts including automobile parts. Types of projects of interest are large-scale construction of waterworks systems and deepwell drilling operations in Philippines and neighboring Asian countries; housing and subdivision constructions using cast iron soil pipes, etc., and steel fabrication works and structural engineering services. P. M. Silva, President, Filipino Pipe & Foundry Corp., P.O. Box 1329, Manila. WTDR. P-76083. OPIC.

3400, 3500—UNITED KINGDOM—Established company wishes to manufacture and market under license or joint venture **light engineering products for use in home and garden.** These products could well be electromechanical or incorporate small (up to 3½ hp.) internal combustion engines. Company presently manufactures lawn mowers, kitchen furniture, aluminum greenhouses, ladders, general aluminum fabrication, small internal combustion engines and irrigation equipment. Has extensive sales network in U.K. and export markets include North America, all European countries, Eastern Asia, Near East and Africa. P. J. Prateley, Managing Director, Birmid Qualcast (Home & Gard Equipment) Ltd., Coleridge St., Sunnyhill, Derby DE3 7JT, England. P-76098.

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

3411—SWITZERLAND — Small manufacturer of line of industrial doors, swimming pool covers, and related items, seeks licensing arrangements for manufacture of **industrial and commercial metal containers and materials-handling devices** such as special lifting cranes (mobile), carts. Firm is well equipped with machinery for sheet metal work, surface treatment and related operations. Employs 30. Meier AG, C. F. Lohnerstr. 22, 3645 Gwatt. P-76044.

3442, 3585—SWITZERLAND — Specialized supplier of metal parts and structural metal to building industry seeks manufacturing licenses for novel items in following fields: **light weight industrial doors, folding partitions, sectional doors for installation on trucks, window and door frames and compact room air conditioning units.** Firm is capable of handling after-sales service and covers several other European countries. Mr. Erb, President, Bauteil AG, Postfach 197, 8051, Zurich. P-76096.

3443—FRANCE—Manufacturer of boiler works in stainless steel or alloys interested in manufacturing under license hardware associated with chemical and nuclear industries such as **pumps, reactor vessels, and special metal pipes** (stainless steel, titanium and zirconium). Firm established 1946, employs 350. Sells throughout France, West Germany, England. Annual sales reported at $6 million. L. Yven, Commercial Manager, BERTHIER S.A., 2 rue du Mont-Luisant, 78630 Orgeval. P76077.

3443—FRANCE — Medium-sized fabricator of stainless steel products is interested in manufacturing under license stainless steel equipment and more specifically peripheral equipment used in nuclear field. Product line of special interest is **spent fuel containers.** Firm employs 2,000. F. R. Brice, Director, International Operations, Bignier, Schmid-Laurent S.A., 25, quai Marcel-Boyer 94201 Ivry sur Seine. WTDR. P-76097.

3443—PORTUGAL—Large firm specialized in construction of stainless steel equpiment for dairy, wine, beer, soft drink and chemical industries seeks licensing or U.S. technical arrangements for construction of some **15 elevated stainless steel bulk storage tanks** for petroleum and petroleum products, with capacities from 300 to 50,000 cubic meters. Company has registered capital of about $1 million, employs 450. Pinho Da Cruz, Production Manager, ARSOPI—Industrias Metalurgicas Arlindo S. Pinho, Lda., P.O. Box 10, Vale De Cambra. Cable, ARSOP; telex, 22568 ARSOPI-P. P-76045.

3444 — UNITED KINGDOM — Seeks license to manufacture and market a brand or preferably patented **metal product.** Has expressed interest in fabricating **collapsible metal containers for transport industry, patented tubes for firing furnaces and metal building structures.** Firm currently makes sheet, tube and plate metal products and would consider fabricating work. Its product line includes crane cabs, machinery housings, metal containers, acoustic enclosures and architectural products. Stephen D. Evans, Director, Bristol Metal Fabrications Ltd., Vale Works, Ashton Vale Road, Bristol 3, England. P-76046.

3448—AUSTRALIA — Seeks licenses for **steel framed housing systems.** Firm is leader in building equipment and accessories. Managing Director plans to visit U.S. in July. Acrow Pty. Ltd., 195 John St., Lidcombe, NSW 2141. P-76082.

3448, 3534, 3443—UNITED KINGDOM—Manufacturer of bulk storage hoppers and silos, conveyors and dischargers, and aluminum stainless/mild steel fabrications seeks licensing arrangements to manufacture **metal storage silos, elevators and conveyors and small pressure vessels or fabrications allied to oil industry.** Company has 40 employees. J. Graham, Director, WPJ Manufacturers (Liverpool) Ltd., Irlam Road, Bottle L20 4QA, England. P-76099.

3469 — GERMANY — Manufacturer of **turned and mill cut precision parts** seeks licenses to **make similar products.** Firm operates as subcontractor producing precision parts to customer specifications. Parts are made from steel, brass, copper, aluminum and plastics. Weight of all precision parts may not exceed 500 kilograms. Company is also able to make parts for pressure casting, and plastics injection molding. Is experienced in making high precision parts for office machines, tape recorders, medical instruments, machine tools, measuring instruments and other machines. Concern would prefer manufacturing an entire program and is prepared to market finished products in Germany. John W. Bligh, Jr., American Consulate General, 5 Cecilienallee, 4 Duesseldorf. P-76047.

3493 — DENMARK — Seeks license to manufacture **precision mechanical products.** Offers its facilities to U.S. firm interested in establishing in Europe with access to EEC market. Danish company specializes in electronics assembly, operates modern plant. Located in industrial Copenhagen suburb, employs 30. Does not seek financial or managerial participation on part of licensor. Georg E.

Bartoldy A/S, 8-10 Haandvaerkerbyen, DK-2670 Greve Strand. P-76078.

3523 — UNITED KINGDOM — Seeks licenses to manufacture and market various types of **arable farming machinery.** Would distribute in U.K. and overseas through its established dealer network. All agricultural equipment (except tractors and large combines) will be considered. Group is involved in agricultural engineering, manufacture of industrial trailers and commercial vehicle equipment. Employs 500. W. A. Airey, Managing Director, Weeks Associates Ltd., Ferry Road, Hessle, Yorkshire HU13 ODZ, England. P-76048.

3524 — UNITED KINGDOM — Seeks licenses to produce **garden machinery** such as tillers, mowers, leaf sweepers, hedge cutters and small chain saws. Company manufactures chain saws and imports garden machinery. Employs 66. H. J. Leach, Joint Managing Director, Danarm Ltd., Stafford Mill Estate, London Road, Stroud, Gloucestershire GL5 2BP, England. P-76062.

3537, 3713 — SWITZERLAND — Manufacturer of custom truck bodies is interested in acquiring licenses and manufacturing rights for new equipment in following fields: **bodies for trucks** and special industrial and municipal vehicles with related hydraulics; **transportation containers** for food and other items for permanent installation on trucks; **automatic lifting platforms, garbage collecting containers, compactors.** Firm supplies special vehicles and trucks to several Swiss government agencies. Employs 100. Otto Lange, Sales Mgr., Carosserie Langenthal AG, 4900 Langenthal. P-76091.

3540—BELGIUM -- Diversified manufacturer of subway cars, diesel locomotives, cranes and storage tanks seeks to expand its product line. Is interested in licenses or joint ventures to produce **machine tools, pollution control equipment, machinery for processing industries (food, textiles, packaging), offshore drilling equipment and equipment for nuclear industry.** Operates 3 plants, employs 3,500. Is equipped to turn out series of 10 to 30 machine tools per month in 1- to 25-ton range. O. J. Bronchart, Managing Director, La Brugeoise et Nivelles (B.N.) S.A., Rue Montagne du Parc 3, B-1000 Brussels. Firms responding to this opportunity are requested to send a copy of their correspondence to A. Simoens, Consulate General of Belgium, 100 Bush St., 14th Floor, San Francisco, Calif. 94104. P-76067.

3540—GERMANY—Major machine tool trade association seeks licenses for one of its members. Company wants to manufacture **high-precision metalworking machine tools.** Presently develops and produces high-precision boring and thread milling institutions and transfer lines. Established in 1937, employs 620. Mr. Lemke, Verein Deutscher Maschinenbau-Anstalten e.V., Aussenhandelsabteilung, 6000 Frankfurt 71, P.O. Box 71 01 09. P-76049.

3540, 3592—VENEZUELA—Businessman seeks licensing arrangement with U.S. company capable of providing technical know-how in setting up **piston and piston ring manufacturing plant.** Proposed plant is related to industrial projects being promoted by Venezuelan Government. Gaetano Tannoya, Residencias Arichuna, Apto. B-2 Avda. Principal de Caurimare, Caracas. P-76050.

3541, 3714, 3743—BELGIUM—Firm specializing in manufacture of **railway cars, machine tools, spare parts for auto industry** is interested in licensing and/or joint venture arrangement to expand and diversify its product line and make full use of industrial capacity of its Bruges plant. Plant is fully operational and well equipped to turn out series of 10 to 30 machine tools per month (in 1- to 25-ton range) and up to 2,500 machined parts, assemblies and sub-assemblies for variety of industries. Firm established 1956, employs 3,500. Further information, write: Edgar De Vleeshouwer, Consul, Consulate General of Belgium, Industrial Section, 50 Rockefeller Plaza, Suite 1104, New York, N.Y. 10020; telephone, 212-586-5110. P-76051.

3551—PORTUGAL—Firm seeks licensing and/or marketing agreements for **bottle and demijohn washing, filling and capping machinery.** Firm produces, distributes and exports stainless steel equipment for dairy, beer, wine and chemical industries. Employs 250. Fernando Barbosa, Commercial Manager, Metalurgica Progresso de Vale de Cambre, Lda., P.O. Box 6. Cable PROGRESSO; telex, 25148 MVPC-P, Vale de Cambre. P-76052.

3559—JAPAN—Seeks unique, advanced technology to manufacture **shredders for handling industrial and municipal waste** such as glass refrigerators, cars, bricks, furniture and plastic products. Desirable capacities are 10 tons per hour, 20-40 tons p. hr. and 50-100 tons p. hr. Fragment size after treatment must be less than six inches. Japanese firm produces boilers and pollution control equipment including incinerator plants, shredders and water treatment systems. Employs 1,200, has branch offices in major cities. Hideki Miki, Section Manager, Research and Development Dept., Takuma Co., Ltd., 16 Dojima Naka 1-chome, Kita-ku, Osaka 530. P-76092.

3559—UNITED KINGDOM—Firm producing **special purpose machines, auto screw machine products and tools** seeks licenses. Wants to make any products compatible with present line. Established 1956, employes 70. D. W. Whiteland, Director & General Manager, Whiteland Engineering Ltd., Torrington Lane, Bideford, Devon EX 39 4BH, England. P-76053.

3566, 3700—GERMANY—Major German manufacturer and exporter of medium-sized **gears, drives and other mechanical power transmission equipment** is interested in licensing, reverse licensing and license exchange arrangements with U.S. firms producing similar products. Firm would prefer cooperation with medium-sized (50 to 500 employees) companies; and will also consider joint venture in distant future. Established 1906, employs 600 (50 in sales). Hans Linke, Assistant Export Manager, Heinrich Desch K.G. 576 Arnsberg, Kleinbahnstr. 21. P-76054.

3569—GERMANY — Major machinery trade association seeks licenses for one of its members. Member company wants to manufacture **machinery for packing cartons.** It is particularly interested in **high-speed carton folding and bottom-sealing machines** with output of 4,000 cartons per hour. Cross licensing arrangement will also be considered. German concern specializes in development and production of packing and palletizing machines and equipment, particularly for beverage industry. Employs 280. Mr. Lemke, Verein Deutscher Maschinenbau-Anstalten e.V., Aussenhandelsabteilung, 600 Frankfurt 71, P.O. B. 71 01 09. P-76079.

3600—FRANCE—Seeks subcontracts to manufacture or assemble additional products. Paris firm presently produces on subcontracting basis **electronic equipment, integrated circuits, phonographs, radios, microscopes, telephone cables, gas heaters and measuring equipment.** Company is also interested in selling its facility. Established 1947, employs 530. U.S. firms interested in acquiring manufacturing or assembling facilities in France should write: Jean Ritter, COGEFI, Tour Septentrion, Cedex 9, 92400 Paris la Defense. P-76055.

3629—UNITED KINGDOM—Subsidiary of large British group seeks license to produce **static power inverters.** Group manufactures turbine-generator transformers, switchgear, electronic apparatus, motor and control gear and related equipment. Reports annual sales of $900 million. J. K. Sandvick, Assistant Commercial Attache, U.S. Embassy, Grosvenor Sq. London W1. P-76056.

3679—FRANCE—Seeks **subcontracts to manufacture or assemble products for U.S. firms.** Company presently produces on subcontracting basis integrated circuits, phonographs, radios, telephone cable, microscopes, measuring equipment and electronic components. Will also consider selling its manufacturing facility just outside Paris. Established in 1947, firm employs 530. Groupe Dentzer-Noxa, 13, bis rue Rabelais, B.P. 6, 93101 Montreuil. P-76085.

3692—ISRAEL—Seeks license to manufacture **zinc chloride dry cells.** Company produces dry cell batteries, emergency power packs, flashlights and stoplights and lithium battery packs. Wants to diversify its produce line. Established in 1971, firm has captured 25 percent of domestic battery market. Employs 70, reports annual sales of $1 million. Joseph Dim, Manager, Am-Or Ltd., 98 Giborei Israel St., Tel Aviv. P-76063. WTDR. OPIC.

3728—FRANCE—Seeks licenses to manufacture **electronic, electromechanical and pyrotechnical equipment used in industry and aircraft armaments.** Firm produces all kinds of aircraft material equipment, structural components, special rotary machines and ground handling equipment. Employs 500, has subsidiaries in U.K. and U.S. Also looking for U.S. licensee to make its products. A. Corbasson, General Secretary, R. Alkan & Cie, rue du 8 Mai 1945, 94460 Valenton. Cable, ROBALKAN VATON; telex, 600876 F; telephone, 925-3990. P-76057.

3732, 3942—FRANCE—Firm seeks licensing arrangement to manufacture **plastic outboard and inboard motor boats, sailboats and plastic swimming pools.** Company presently manufactures plastic products: boat bridges, swimming pools, diving boards, shelters for swimming pools, molds for concrete blocks, electric poles. Patrick Hobsterdre, Manager, Strativer, Rue Marechal de Lattre de Tassigny, 83600 Frejus. WTDR. P-76058.

3822—UNITED KINGDOM—Seeks licensing or joint venture arrangement for manufacture of **automatic controls for refrigeration, domestic appliances, heating and ventilating systems** and any other items complimentary to firm's product range. Presently manufactures thermostats, pressure switches, electronic controls, heating and ventilating systems. Premises are well equipped with facilities for R & D and flow production. Established 1960, employs 1,300. Firm has annual sales volume of $10 million. Donald Pike, Managing Director, Teddington

Auto Controls Ltd., St. Austell, Cornwall, England. P-76059.

3832—UNITED KINGDOM—Seeks licensing agreement for manufacture of products in field of **electronic/optical precision instruments** for use in hospitals and laboratories. Established 1963, firm manufactures and exports apnoea alarms, planimeter/graphical peak analysets, electrochemical instruments and rapid label printers. Current annual sales volume is $200,000. T. H. Trusty, Director, Chemical Electronics (Birtley) Ltd., 39-40 Hutton Close, Washington, Tyne & Wear NE38 OAH, England. P-76060.

3841 — SWITZERLAND — Seeks distributorship and possibly license or joint venture to manufacture **radio immuno assay materials and instruments; radioisotopes, tagged or non-tagged; hormones, human and animal; endocrines; materials for drug detection; second antibodies; equipment and systems for immunochemical processes and radio-chemical assays.** Established 1971, employs 7, has Switzerland and Yugoslavia as its sales territory. J. Mullener, President, Mullener Geratebau AG, Haerolistrasse 14, 8957 Spreitenbach. P-76093.

3842 — UNITED KINGDOM — Seeks licenses with U.S. manufacturers of **medical aids, disabled aids or ward care aids.** Presently manufactures patented device known as URILARM, used for incontinent patients. Current annual sales volume is $70,000. Kenneth F. Gulliver, Managing Director, Medical Enterprises (Devices), 6 Shaftesbury Road, London E4 7 BW, England. P-76061.

4582—BOLIVIA—Desires joint venture arrangement to establish aviation repair facility at El Alto Airport, La Paz. Elevation of airport is 13,500 feet above sea level. Additional information: Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76094.

5411—SAUDI ARABIA—Prominent group seeks U.S. collaboration to **establish large modern supermarket and shopping center.** Shopping center/supermarket design consultants and firms which could provide procurement services for food lines are especially desired. Joint equity investment arrangements will also be considered. Official of firm will visit U.S. in March for consultations with interested firms. Additional information: Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76100. OPIC.

7391—FRANCE—Seeks new techniques and know-how related to the **chemistry and metallurgy of precious metals.** Established in 1935, firm has 240 employees and annual sales of $1.5 million. Company deals in precious metals (gold, silver, platinum, etc.), is active in chemistry and metallurgy of same metals. Mr. Azieres, Commercial Manager, Compagnie des Metaux Precieux, 4 rue de Beaubourg, 75004 Paris. P-76095.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate or make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that pursuant to Section 3(5) of the Export Administration Act of 1969, as amended, it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such receipt to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

Nigeria Seeks Company To Build, Finance Hotel

The Federal Military Government of Nigeria invites reputable companies to finance and build a five-star hotel on a 35-acre plot within the site of the Nigerian International Trade Fair complex along the Lagos-Badagry Road. The Government of Nigeria will provide the land and all necessary infrastructure.

The hotel should have at least 500 bedrooms within a minimum of 20 suites, one fully equipped all purpose banquet hall with conference facilities for 600, four party rooms which can be divided into 2 sections, fully equipped kitchen attached to banquet hall. Other features include: restaurants, bars, lounges, recreational facilities, technical facilities (such as refuse disposal, laundry), office facilities, parking area.

Interested companies should submit a brief history of company, financial statements, architectural drawings, completion date, means of financing and expected cash flow to the Permanent Secretary, Federal Ministry of Trade, Trade Fair and Tourism Division, Broad St., Lagos, Nigeria, before March 1. P-76038. OPIC.

Investment Potential In Cyprus

The Government of Cyprus is exploring the possibility of establishing a number of export oriented manufacturing industries. A British consulting firm has been engaged to carry out the feasibility surveys. Products of interest include pharmaceuticals, Hi-Fi equipment, and electrical appliances such as refrigerators, washing machines, mixers, ovens and air conditioning units. U.S. firms interested in participating in these projects on a joint venture or licensing basis should write: L. H. Manderstam & Partners Ltd., 38 Grosvenor Gardens, London SW1W OEB, England. Telex, 24787. P-76087.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

ENGLAND—Hospital equipment manufacturer wishes manufacturing agreement with U.S. firm to make aids for disabled and incontinent patients in U.S. File 2908

FRANCE — Large established French firm producing full line of plumbing pipes and fixtures wishes to enter U.S. market through joint venture with U.S. building supplies firm. French firm is willing to invest money and technology. Southern area near good seaport preferred. File 2909

GERMANY—Manufacturer of packaging equipment seeks joint venture with U.S. partner. Products include production, filling and fastening machines. Plant to be located in U.S. File 2910

GERMANY—Established German firm seeks joint venture and/or manufacturing agreement with U.S. firm to make plastic sheeting of polyisobutylene in U.S. for roofing and sealing and protection against acids in industrial constructions. Manufacturers of fiberglass or fiberboard might be of particular interest. File 2911

GERMANY—Firm is searching for U.S. firm manufacturing steel pipe or pipe systems with diameters ranging from 4 to 40 inches, maximum length of 4 meters and wall thickness of 6 to 12 mm. Objective would be to form joint venture to fabricate highly wear resistant steel pipe systems for sand and gravel operations in U.S. File 2912

GERMANY—Manufacturer of fabricated wire products wants to manufacture bird cages in U.S. German firm already exports finished bird cages to U.S. File 2913

GERMANY—Old, established firm—manufacturer of glues and adhesives used in building and paper industries—is offering licensing or joint venture agreement with U.S. firm to do same in U.S. File 2914

GERMANY — Large manufacturer of men's neckties seeks U.S. partner to either distribute their ties or to manufacture and distribute them in U.S. German firm would supply the fabrics. They are willing to consider acquistion of minority capital interest in U.S. firm or form joint venture company. File 2915

GERMANY—Two-way licensing agreement sought with U.S. firm to manufacture fiberglass flanges and accessories, hot and cold rolling machinery, and dust collection systems. File 2916

SWITZERLAND — Firm has device to transform regular turning lathes into non-circular turning lathes. Device is widely used in Europe. They desire to license its manufacture in U.S. File 2917

Foreign Trade Inquiries

These trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1972 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Highway & street construction

● **16100—MALAYSIA**—The Government plans to invite tenders in mid-1976 from prequalified contractors for construction and reconstruction of two trunk roads, 72 and 92 miles long. Financed by World Bank. Prospective contractors must have extensive experience in executing highway and bridge construction works, preferably in tropical countries. For tendering, work divided into four construction packages, 34 to 50 miles each. Construction expected to commence in 1976 and estimated construction period for each package 1½-2½ years with periods of 2-3½ years if two or four packages are combined in one contract. Contractors interested in receiving prequalification questionnaire forward request to: The Director, Highway Planning and Public Transport Unit, Ministry of Works and Transport, Jalan Tun Ismail, Kuala Lumpur 10-02. Responses to questionnaire to be submitted to above address by March 15, and copy sent to: Kampsax International A/S, Dagmarhus, 12 H. C. Andersens Boulevard, DK-1553, Copenhagen V, Denmark.

Heavy construction

● **16200—ECUADOR** — Cementos Selva Alegre C.E.M., a mixed enterprise, is calling for competitive offers for detailed design, construction, provision and installation of equipment, and initiation of operations, of a cement plant in Otavalo, Imbabura Province. Capacity will be 1,000 metric tons per day (345,000 tons per year) of Portland Cement, ASTM Type I. Interested firms must comply with following requisites: a) fulfill conditions required by entities financing the project; b) have recognized reputation for design, construction and initiation of operations of integrated cement plants; c) have successfully installed at least three cement plants during last five years, one of which in a developing country; and d) provide results of laboratory tests on limestone samples, clay and other raw materials available in Quito, which samples are available upon written request to the engineers. Appropriate documents may be obtained from Surveyor, Nenniger & Chenevert, Inc., 1550 de Maisonneuve Blvd., West Montreal H3G 1N2, Canada. Financing for Part I above will come from Government of Canada via Canadian Export Development Corporation and Royal Bank of Canada. Part II, which will be tendered at a later date and financed by Inter-American Development Bank, will include provision of all equipment for operation of stone, quarry and mine, and loading and transport of limestone from mine site to cement plant. No bid deadline established. For additional information contact: Sr. Guillermo Moreano Paz, Gerente General, Cementos Selva Alegre C.E.M., Edificio Benalcazar 100, Av. 10 de Agosto y Riofrio, Oficina 605, Quito.

● **16200, 34400—MALAYSIA** — National Electricity Board of States of Malaya invites bids for manufacture, supply, testing, packing, delivery, erection, commissioning and maintenance for 12 months of H. V. transmission lines comprising: 140 kms. of 132 kv twin 300 MM2 ACSR double-circuit transmission line from Malacca to Kluang; and 69 kms. of 132 kv twin 150 MM2 ACSR single-circuit transmission line from Kluang to Scudai. Contract no. is 342 7/3. All lines will be on lattice steel structures. Tender must cover complete supply and erection of subject lines. Firms submitting bids must have considerable relevant experience. Work expected to be partly financed from World Bank sources. Two copies of brief description of extent of work and general conditions pertaining may be obtained from Messrs. Preece, Cardew & Rider, Paston House, 165-167 Preston Road, Brighton BN1 6AF, Sussex, England. Tender documents must reach National Electricity Board, Kuala Lumpur, and Brighton Office of Preece, Cardew & Rider by March 22.

● **16200—SOUTH AFRICA**—Tender for plant waste disposal system (area 06) for coal beneficiation plant. Mr. M. C. Van Heerden, Head, Capital Buying, South African Iron and Steel Corp. Ltd. (ISCOR), P.O. Box 450, Pretoria 0001, invites tenders for design, manufacture, supply, inspection, testing, packing and all other costs incidental to erection of such a plant at Grootgeluk Coal beneficiation plant in northwestern Transvaal, including initial maintenance. Interested parties should note that preference will be given to South African sources of supply with emphasis placed on local content, although if it can be shown that tenders based on greater imported content will result in lower quotes, consideration will be given thereto. Documents available against $173 deposit refundable upon submission of tender for complete plant. Bid deadline March 15.

Textile goods

2293051—GERMANY—Curled hair. Reply to—Herr Heinz Marx, Freidrich Marx, Postfach 113, 5282 Dieringhausen. Tel. 02261/77303.

Wood products

2499583 — FRANCE — Woodenware: turned, shaped or molded (dishes, serving forks, spoons, salad bowls, etc.). Created 1845. Currently capitalized at 300,000 francs, employs 15, has 5 traveling salesmen, specializes in all types premiums, advertising gifts & houseware articles. Imports from Hong Kong, Taiwan, China, Korea, Mexico, Common Market countries & U.S. Sales territory N. & W. France. Operating satisfactorily & has good credit rating. Bank ref—Banque Nationale de Paris; Credit Commercial de France; Societe Generale; all Rue Nationale, 59000 Lille. Reply to—Mr. Guy-Louis Deffrennes, Pres. Gen. Mgr., S. A. Deffrennes Freres, 41 Rue des Tanneurs, 59011 Lille Cedex. Cable Deffrennesfrere; phone 54-74-63.

Paper mills

26219XX — GERMANY — Natron kraft paper for heat transfer printing in textile industry. Major German concern, established 1875, employs 6,500. Annual sales dm 700 million. Anticipated purchase 2-3,000 tons/year. Offers should be made by manufacturers only. Firm plans to send 2 reps to U.S. in Feb. to discuss purchases. Reply ASAP—Barbara Ernst (File GVD), American Consulate General, Cecilienallee 5, 4 Duesseldorf 30. Tel: 0211/490081.

Paperboard containers, boxes

2654113—FRANCE — Beverage cartons. Estab. 1917. Div. of large group Saint-Gobain-Pont-a-Mousson. Mfr. of steel castings, pipes, tubes, valves, motor vehicle transmissions, railway wheels & axles, plastic tubes. Annual sales vol. $90 million. Bank ref: Credit Lyonnais, Societe Generale, 54000 Nancy. Very good reputation. Would consider licensing agreement. Dir. sale & agency. Reply ASAP to—Mr. G. R. Cuvillier, Dir., Processing Dept., Pont a Mousson S.A., Dept. Sma Detrez, 4 Rue des Lilas, 93100 Montreuil. Cable SMA PAM; telex 220773F; phone 858-9095. Ref. GC/CG.

Industrial chemicals

28190, 28330, 38110, 38290 — SWITZER-

LAND—Medium-sized manufacturer/distributor of radio-isotopes (tagged or nontagged); endocrines; materials, equipment and systems for immunochemical processes and radiochemical assays. Will consider distributorship, licensing or joint venture arrangement with U.S. firms in Switzerland. Contact Mr. J. Muellener, Muellener Geraetebau AG, Haerdlistrasse 14, 8957 Spreitenbach; cable Muellener Geraetebau Spreitenbach.

Drugs

28340 — BOLIVIA — Wishes to import pharmaceutical preparations for human and veterinary use. Reply to Laboratories Prodes, S.A., Alex Romero Casilla 5913, La Paz.

28340—AUSTRIA — Medium-sized agent and manufacturer of pharmaceuticals seeks general agencies for pharmaceutical preparations for registration in Austria. Contact Ing. Karl Kaczvinszki, Agepha G.M.B.H., Hernalser Hauptstrasse 27, A-1170 Vienna (English or German correspondence acceptable).

28340—AUSTRIA—Medium-sized manufacturer and distributor of pharmaceutical preparations seeking full range of pharmaceutical imports for diversification of sales program (Austria only). Contact Dr. Mayer, Montavit G.M.B.H., ABSAM A-6060, Hall in Tirol; Cable—Montavit Hall in Tirol (English correspondence acceptable).

28340—SWITZERLAND—Seeking opportunity as licensed manufacturer or exclusive distributor of full line of central nervous, cardiovascular, respiratory, digestive and dermatological systems pharmaceuticals. Firm consists of five affiliates covering Switzerland, W. Germany and Austria with 300 employees including 30 salespersons. Current corporate annual sales—SF 40 million. Contact Mr. R. Duckeck, IROMEDICA AG, Haggenstrasse 45, CH9014, St. Gallen, Telephone 071/27 3434; Telex 77.127.

Gum, wood chemicals

• **28600—GREECE** — Creosote Oil, 1,000 metric tons. Tender Number AD-5/13 (Thrice). Bid deadline March 13. Tenders invited by Public Power Corp., Purchasing Administration, 55 Stournari St., Athens 102. Copy of tender documents and specifications obtainable from Chemicals and Rubber Program, Materials Division, OBRA/BDC, Room 2100, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-3464. Review copy will also be available at U.S. Department of Commerce District Office, Federal Bldg., P.O. Box 36013, 450 Golden Gate Ave., San Francisco, Calif. 94102, 415-556-5868.

Plastic products

3079015—JAMAICA — 7,000 polypropylene injection moulded seats & backs for chairs; 2,000 stool seats of similar mfr. Both in colors grey/blue & "flame". Quotations c.i.f. Kingston. Suppliers should indicate delivery date from time of order. Sample seats & backs via air parcel post would be required for acceptable design. Reputable local furniture mfr. & is considered creditworthy. Reply. to—R. J. Kelly, Mng. Dir., Jamaica Office Equipment Co., Ltd., 14 South Camp Rd., Kingston 16. Tel. 9281364.

Abrasive, asbestos, nonmetallic mineral products

32950XX — 33991XX — GERMANY — Ceramic powder; metal powder. Materials to be used for plasma flame spray systems. German firm maintains subsidiary in U.S. & sells in W. Germany, all Europe & U.S. Financial reference: Bankhaus Merk Fink & Co., Duesseldorf. Reply ASAP—Herr Dimmers, Purchasing Mgr., Bernex GMBH, Postfach 33, Helmholtzstrasse 5, 401 Langenfeld. Tel: 02173/70030.

Steel mill products

• **33100—CHILE** — 27 mt of stainless steel in bars. Tender No. 267/OC-CH; bid deadline March 11. Empresa Nacional de Electricidad S.A., Santa Rosa 76, Santiago. Specifications available from above address for $10.

Rolling, drawing, extruding of nonferrous metals

• **33500 — IRAN** — 32,000 kgs. 4 mm. copper ply wire with copper coating. Tender No. 54/814; bid deadline March 15. Iranian State Railways, Tehran. Tender documents available from Copper, Lead and Zinc Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-2438.

• **33500 — MALAYSIA** — Manufacture, supply, testing, packing for export, delivery, erection, commissioning and maintenance for 12 months of 140 km of 132 KV twin 300mm² ACSR double circuit 3 phase transmission line and 69 km of 132 KV twin 150 mm² ACSR single circuit 3 phase transmission line. Tender No. 3427/3; bid deadline March 22. National Electricity Board of States of Malaya, Kuala Lumpur. Tender documents available from Messrs. Preece, Cardew and Rider, Paston House, 165-167 Preston Rd., Brighton BN1 6AF, Sussex, England at £30 per set.

3351435—GERMANY—Bronze, sheet or strip, 2 to 6 meters long, 3 to 6mm. thick, various widths, alloy cu sn 8 (German DIN standard 17662), chemical analysis: PO—0.4%/FE 0.1%/N.I. 0.3%/P.B. 0.05%/ZN 0.3%/SN 7.5—9%/remainder CU. Direct sale to end-user. Buyer is mfr. of machine knives & semi-finished nonferrous metal products. Reply ASAP to—Herr Eisenblaetter, Siegfried Wippermann, 58 Hagan 1, Steinhausstrasse 38; Postfach 4007. Tel. (02331) 61647.

Construction, mining, materials handling machinery, equipment

• **35300—SRI LANKA**—100 farm tractors, 100 trailers, 10 crawler tractors, 8 motor scrapers, 2 excavators, mobile crane, 2 crawler loaders, 60 vibrating rollers, stone crusher, 48 concrete mixers, 30 jeeps, survey instruments and related equipment. Tender number not specified; bid deadline March 15. Ministry of Irrigation, Power and Highways, Colombo 1. Tender documents available from Embassy of Sri Lanka, 2148 Wyoming Ave., NW., Washington, D.C. 20008.

Special industrial machinery

35500 — MOROCCO — Mr. M'Miche of Kenitra, Morocco, is interested in purchasing prune processing equipment, including washing, sizing, drying and packaging machinery. Further information may be acquired by writing directly to Mr. Mlah M'Miche, Quartier Industrielle, Kenitra. Correspondence must be in French.

• **35590—BRUNEI**—Supply and installation of chemical feeding and dosing equipment at a water treatment plant. Bid deadline March 29. Tender issued by Government's Consulting Engineers, Binnie & Partners (Brunei), Giok Tee Bldg., P.O. Box 838, Bandar Seri Begawan, Brunei. Tender documents available from Binnie & Partners at above address for deposit of B$500 (U.S. $200), payable to Government of Brunei. Deposit will be refunded following receipt of bona fide tender and/or return of documents in good condition. Make reference to: Tender for Supply and Installation of Water Treatment Chemical Dosing Equipment, Government of Brunei, Sungai Tutong Scheme—Contract No. 23.

General industrial machinery

• **35600—BRAZIL** — Pre-qualification of bidders for design, manufacture, delivery, and supervision of installation of six spillway tainter gates, measuring each 15 x 18 meters, hoists and appurtenances. Tender No. P.S.—019.75; bid deadline March 15. Furnas—Centrais Electricas SA, Directoria de Contratos e Suprimentos, Rua Real Grandeza, 219—10 And. 20000 Rio de Janerio, RJ—EC—02. Telex: Furnas Rio No. 021/21166, Directoria Suprimentos. Cable: Rio Furnas Rio de Janeiro, Directoria Suprimentos. Purchase to be made with funds from IBRD Loan. Call for bids will be issued during first half of 1976 only to manufacturers who have pre-qualified. Prospective applicants invited to request instructions for prequalification by communicating with Furnas directly. In correspondence, reference must be made to: "ITUMBIARA — Spillway Gates — P.S. 019.75."

3569998 — AUSTRALIA — Heavy duty 2000/3000 PSI, high water pressure industrial cleaning equip. McCowatt plans arrive San Francisco Feb. 29; LA March 6; Chicago March 8; & flexible for 7 days from March 9. For additional info contact Ms. Paulette Wolfson, Dept. of Commerce, Washington, D.C.; tel. 202-967-3265. Reply to H. F. McCowatt, Mng. Dir., Thermetec Pty Ltd., 47 Jersey St., Hornsby, NSW 2077.

Machinery

3599498 — TRINIDAD — Machinery for making oil & air filters for autos. Raw materials for use in mfg. oil & air filters. Well est. firm operating as wholesaler, retailer & imp. of auto. spare parts & access. Operates 2 outlets in San Fernando area, country's second largest town, situated close to large oil refineries & other indus. concerns. Principals well considered in local business circles. Call, cable or write—Alim Mohammed, Man. Dir., Crescent Motor Supplies Ltd., 17 Gooding Village, San Fernando, Trinidad. Cable Cremotos; tel. 65/77395; telex 357 Cremos W.G.

Communications equipment

• **36610—BURMA**—Posts and Telecommunications Corp., 125 Pansodan St., Rangoon, has issued tender No. 1 for design, engineering, manufacture, supply, delivery and installation of telephone switching equipment. (Complete with power plant, auxiliary generator, air-conditioning plant engineering, and training of local personnel.) Bid deadline May 26. Financed with IDA credit. Copy of specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

• **36610—BURMA**—Posts and Telecom-

munications Corp., 125 Pansodan St., Rangoon, has issued tender No. 2 for supply of various quantities and types of telephone cables and accessories. Bid deadline May 27. Financed by IDA credit. Documents and specifications from above address, citing "T-0055," for $30.46 per set, or on short-term loan basis to firms located in U.S. from Science and Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

● **36610 — COLOMBIA** — Empresa De Energia Electrica De Bogota, Calle 13 No. 37-35, Of. 224, Bogota, has issued tender No. PCP-75-48 for contracting the design, construction, testing, installation, and placing into operation of a multichannel telephone system in the UHF band. Bid deadline March 12. Specifications available at above address for $61.

● **36610 — MALAYSIA** — Director-General of Telecommunications, Telecommunications Dept., Jalan Bukit Mahkamah, Kuala Lumpur, invites bids for supply of pulse code modulation equipment, bid deadline April 7, and telephone cables and loading cables for the period 1976-80, bid deadline April 14. Documents available from above address for $40 each tender or on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

● **36620 — COLOMBIA** — Instituto Nacional De Radio Y Television, Inravision, Avenida Eldorado, Of. 308, Bogota, has issued tender No. 03 De 1976 for supply of 20 TV retransmission translators including antennas, distributors, and other accessories for Colombian TV network. Bid deadline April 2. Specifications available at above address for $61.

● **36620 — INDIA** — Director General, Posts and Telegraphs (MMD Section), Parliament St., New Delhi 110001, has issued tender No. 12-127/75-MMD for supply of ground equipment for space satellite communications systems required for Telecommunications Research Center, New Delhi. Bid deadline March 22. Documents available for $2.74 per set from Assistant Director General (Imports), Room No. 517-A (above address), by sending crossed demand draft in favor of Section Officer (C and A), Office of the Director General, Posts and Telegraphs, New Delhi. Interested bidders must obtain tender documents prior to submitting offers.

● **36620—NEPAL**—PAD to Nepal, Department of Broadcasting, Singha Durbar, Kathmandu, has issued Tender No. RNE-TR1 for supply of high frequency broadcast transmitter and associated equipment and spare parts; wide band antenna for transmitter and spare parts. Bid deadline April 4. Specifications, tender form and general instructions and contractual requirements available from above address for $1.

● **36620—TURKEY** — Ptt Genel Mudurlugu, Malzeme Dairese Baskanligi, Ruzgarli Sokak Catal Han, Ulus-Ankara-Turkey (Post-Telegraph Telephone Admin.), is seeking bids for supply of equipment for establishment of an automatic telephone exchange factory. Bid deadline April 21. Copy of specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

3662661—GERMANY — Metal detectors for following applications—archaeological, military & police, industrial, & treasure hunting (coins, old weapons, nature gold & silver). Reply fastest means to—Herr Albrecht, Gen. Mgr., AS—Albrecht & Scholz, Handelsgesellschaft GMBH & COKG, 4 Duesseldorf, Kuehlwetterstr. 28. Tel. 626304.

Railroad equipment

● **37400 — SOUTH AFRICA** — South African Railways invites firms to bid for supply of 586 electric suburban coaches, Tender No. 1020 71402. Tender documents available from Chief Stores Superintendent, Rm. 3, Melhof, 2 Melle St., Braamfontein, Johannesburg, against payment of R50 per initial set and R50 for additional set. Bid deadline April 9.

Engineering, laboratory, scientific, research instruments

● **38110—ECUADOR** — Universidad Tecnica Particular De Loja, P.O. Box 41, Loja, Ecuador, has issued tender for supply of laboratory and scientific instruments for School of Agropecuary Industries. Bid deadline June 3. Technical and general specifications available from above address against payment of nonrefundable $20. Suggested that only U.S. firms having resident agents in Ecuador participate in this tender.

Instruments for measurement, analysis and control

● **38200—INDIA**—Hydel Designs Directorate — I, Punjab State Electricity Board, Patiala, Punjab, has issued tender No. TCE—249—M—061/DDH/CD—1/137 for water level indicator/recorder to sense level changes in surge of water conductor system. Bid deadline March 24. Copies of tender announcement and specifications available from above address for $6.25 per set.

● **38200—MALAYSIA** — Deputy General Manager (Planning & Construction), National Electricity Board, Jalan Bungsar, P.O. Box 1003, Kuala Lumpur, has issued tender for design, manufacture, inspection and testing, delivery, erection, setting to work, finishing and maintenance for 12 months of equipment comprising the following: all electronic instruments and controls for operation of three 106 KG/s oil-fired boilers; three 120 MW turbo-alternators and auxiliary equipment; data acquisition and display equipment for storage and retrieval; control desks, panels, mimic diagrams, transmitter panels, etc. Bid deadline April 30. Tender documents available from above address for $120.

Photographic equipment, supplies

38617XX—GERMANY—Microfilm punchcards, adhesive frame (35mm); microfilm duplicating cards with fitted diazofilm. Annual quantity: 500,000 ea. Quotation f.o.b. or c.i.f. European port. Reply by fastest means to—Herr Niggemeyer, Fachdienst Niggemeyer, 463 Bochum, Varenholtstrasse 123. Tel. 791287.

Toys, amusement, sporting goods

394413X—GERMANY—All kinds of electronically operated toys. Current 220 volts, 50 cycles. Quote f.o.b. U.S. Estab. 1975, employs 6. Annual sales DM 3,000,000. Financial ref: Deutsche Bank Ag, 5 Koeln. Has previously purchased from U.S. firms through T.O. system. Reply by fastest means to—Herr Robert, Belcom—Cologne, Henry Robert KB, Hansaring 60, 5 Koeln 1. Tel. 0221-210151; telex 08882360. Ref: RH—Telcon Robert 1/20/76. Dir. sales & agency.

3949551—3949555 — NETHERLANDS—Ice skates; sidewalk skates. Excl. ag. and/or distr. Est. 1750, authorized capital Fls. 2,250,000. Staff 65. Bankers—Algemene Bank Nederland N.V., Keizersgracht, Amsterdam. No objection to moderate open account trading. Reply to—Mr. J. A. Eelsing, Proxy, C. G. Sieben & Co. B. V., P.O. Box 338, 61 Basisweg, Amsterdam. Cable Cegesieben; twx 16680; tel. 020-139292.

Miscellaneous manufacturing industries

3999998—ECUADOR—Sheet wax laminators (presses which make sheets of wax for insertion into beehives). CREA, a regional development organization, is being assisted by the Peace Corps in acquiring laminators for local beekeeping cooperatives. Product literature, data on use of the laminators, and c. & f. price quotations at Port of Guayaquil are sought. Despite low-dollar value per individual unit, there is probability of volume sales. Contact—Mr. Allen Brow, Small-Business Advisor, Cuerpo de Paz, Casilla 4926, Cuenca, Ecuador.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Wood products

2499XXX—GREECE—Novelties — cork; wood novelties & specialties (bookends, ashtrays, etc.). Acts as agent on commission basis for textiles & novelties. Represents German & Japanese firms. Interested in excl. agency. Reply to—Theodors Theodoropoulos, Owner-Mgr., Theod. D. Theodoropoulos, 16 Petmeza St., Athens 403. Tel. 3218340, 912908.

24995XX — NETHERLANDS — Wood novelties & specialties; woodenware. Excl. agent and/or distr. No objection against moderate open account trading. Reply ASAP to—Mr. C. J. de Waal, Mgr., Orba Nederland B.V., P.O. Box 10406, 187 Prinsengracht, Amsterdam. Cable CRBASTEEL; twx 16212; tel. 020-62741.

Plastic products

3079081—FRANCE—Plastic wire & cable ties & clamps for electrical installations. Wishes receive offers from U.S. firms not represented in France. Enjoys excellent credit rating & recommended as trade partner for U.S. firms. Excl. distr. Reply ASAP to—Mr. A. Levenheck, Mgr., Baumann, S.A., 16 Place de la Gare, 67009 Strasbourg-Cedex. Telex 87068, Chamco Strbg. absa; phone 88-32.60.26.

Rolling, drawing & extruding of nonferrous metals

3356971 — BOLIVIA — Electrode zinc. Reply ASAP to—Compania de Servicios Internacionales Ltda., Casilla 5993, La Paz.

Cutlery, hand tools, general hardware

3429441—SWITZERLAND — Automatic door controls for residential & industrial doors. Estab. mfr. of structural metal parts & line of industrial & residential doors. In process of diversification. Staff consists of about 30 including several graduate engineers. Located in modern,

attractive plant. Reputation & financial standing reported good. Reply to—Mr. B. Braber, Meier AG, C. F. Lohnerstr. 22, 3645 Gwatt. Tel. 033/36 36 44.

Metal stampings

3469XXX — CANADA — Top of range utensils; bakeware, pantryware & utensils; steel pails, garbage cans, ash cans. In process of establishing agency & plans to be operational by Sept. 1 with starting staff of 2. Looking for suppliers of all types of hardware & cookware. Has estab. himself firmly in this field in past 10 years & has reached position of dist. sales mgr. with national firm. Sales area for firm will cover Nova Scotia, New Brunswick, P.E.I. & Newfoundland. Projected sales vol. for 1st yr. is half million dollars. Although firm not starting business until Sept., would like to encourage immediate offers to enable him to estab. lines ASAP. Reply to—Mr. Gary Andersen, Gen. Sales Mgr., P.O. Box 1244, Truro, Nova Scotia. Tel 902-895-6259.

Fabricated metal products

3497359—FRANCE—Hot stamping foil. Medium size co. estab. 1885. Staff 32. Mfr. & distr. of inks for printing on metals (aluminum & cast iron). Annual sales vol. $46,000. Bank ref.: Ste General, 27400 Louviers. Distributor for Ashland Chem. Co., Dublin, Ohio; Josch Industries Inc., Warren, Mi. Good reputation. Reply to—Mr. John Carey, Pres. Gen. Mgr., Ets Carey, 27400 Amfreville Sur Iton. Telex 180610F; phone 40-23-10.

Special industrial machinery

355953X—SOUTH AFRICA—Cigarette & cigar making machines; cigarette, cigar & tobacco packaging & wrapping machines; other tobacco mfg. machinery & parts. Operates small sales force servicing packaging & processing industries in S. Africa. Operates subsidiary which installs, repairs & maintains equip. marketed by parent co., which represents a number of foreign principals from U.S., W. Germany, France & U.K. Firm's banker, Nedbank of Siemert St., reports favorably on firm. Exclusive agency. Reply ASAP to—A. J. Stoneham, Dir., P. A. Cuthbert & Co. (Pty) Ltd., PO Box 8357, Johannesburg. Tel 011/287660; telex 8-0723SA.

3559589—FRANCE—Incandescent lamp-making machinery. Estab. 1954. Employs 3. Agent of many German firms. Good reputation. Seems to have good contacts in electric industry. Reply ASAP to—Mr. Thouret, Gen. Mgr., Thouret Industries, 208 Rue St.-Maur. 75010 Paris. Telex 670630; phone 607-8780.

3559589—GREECE—Jewelers' machinery & equip. Interested in automatic & semi-automatic machinery to process gold, platinum & silver for jewels. Operates as agent, importer & dist. of cleaning machinery for jewels. Represents European firms. Interested in excl. rep. of items above. Member Athens Assoc. of Commercial Agents. WTDR on request. Reply to: Constantin N. Peristeris, Dir., C. Peristeris & Co., 33 Stadiou St., Athens 121. Tel. 3241387; telex 314230-Ilco.

Service industry machinery

3585XXX — GERMANY — Refrigeration drinking fountains; commercial ice-making machines for producing flake. Small co. founded 1969. Importer, exporter & distributor of restaurant & commercial kitchen equip. Reply ASAP—Mr. Hans-Jochem Dreyer, H. J. Dreyer Import-Export, 433 Muelheim/Ruhr, Kraehenbueschken 2. Cable Hajo Muelheim; tel. 421652.

Household appliances

3639961—SWITZERLAND — Electrically & mechanically operated household waste compactors. Estab. mfr. of structural metal parts & line of industrial & residential doors. In process of diversification. Staff consists of about 30 including several graduate engineers. Located in a modern, attractive plant. Reputation & financial standing reported good. Reply to—Mr. B. Braber, Meier AG, C. F. Lohnerstr. 22, 3645 Gwatt. Tel. 033/36 36 44.

Optical instruments, lenses

38321XX—38322XX—BOLIVIA — Optical pyrometers, detectors & filters for infrared rays; spectograph instruments, infrared; sighting & fire control equip. with alarm devices. Reply ASAP to—Compania de Servicios Internacionales Ltda., Casilla 5993, La Paz.

Measuring & controlling devices

3832101—DENMARK—Ph meters. Excl. agency. Small firm estab. 1975. Located in Copenhagen area. Employs 3 (1 technician). Sales territory: Denmark. Reply to—R. Sjoberg, Mgr., Carso Teknik A/S, 14 Klintegaard Svej, DK-2690 Karlslunde. Tel. 03-150381.

Surgical, medical, dental instruments

38410XX—38421XX—GERMANY — Surgical instruments for proctology; surgical supplies & aids related to proctology. Has excellent contact to hospitals throughout Germany. Financial ref. Deutsche Bank, AG, Essen. Reply by fastest means to—Mr. Dunsmore, Purchasing Mgr., Medilab, Vertrieb Med. & Labortechnischer Geraete GMBH, Ruschenstr. 21, 43 Essen.

Watches, clocks, parts

3873587—SPAIN — Fairly large import-export co. having such products as unworked ivory, precious & semi-precious stones, skins of wild animals, hunting trophies, etc. Operates throughout country & imports from various undisclosed sources. Maintains branch offices & sales outlets in major Spanish cities. Cites Banco de Snatander, Zurbaran 8, Madrid 4 as financial ref. Call or cable—Mr. Humberto Scheffler, Pres., Luxenter International Trading Co., Torre de Madrid, 5/1, Madrid (8). Cable: Mexport; telex: 43789 Mexp e; tel. 91/248-6855.

Sri Lanka Has Import Brochure

Sri Lanka has available an import commodities brochure that provides information regarding items at present imported by the Sri Lanka State Trading (General) Corp. and contains a questionnaire providing for manufacturers/principals and suppliers abroad to register with the Corporation with entitlements to special facilities. Tender documents will be dispatched regularly, free of charge, to those registered with the Corporation when tenders are called for the items against which the manufacturer/principal or supplier is registered. Interested firms may obtain a copy from Mrs. S. Rodrigo, Embassy of Sri Lanka, 2148 Wyoming Ave., NW., Washington, D.C. 20008; tel., 202-483-4025.

German Distributor Seeks Agreements With Producers Of High-Quality Outerwear

A German distributor to some 700 fashion houses in Germany, Austria and Switzerland seeks representation agreements with leading American manufacturers of fashionable high-quality outerwear. The firm, Hubert Hering Mode KG, represents Lanvin, Pierre Cardin, Jacques Esterel, etc., and exhibits at all leading trade fairs in Germany and arranges 16 fashion shows annually at first-class hotels.

Products sought include men's sweaters, jackets and jerseys, sport shirts and sweatshirts, suits, overcoats and topcoats excluding uniforms, swimwear and shorts, and other knit outerwear; ladies' play garments and dungarees, shorts, beachwear, slacks, bathing suits, bikinis and other swimwear, suits, blouses and shirts, dresses and evening dresses, skirts and jackets, long evening skirts, and other outerwear; for both ladies and men, robes and dressing gowns, leather coats and jackets, apparel belts, and sunglasses.

Reply to Herr Hubert Hering, Hubert Hering Mode KG, 5 Koeln 1, Pantaleonswall 39. Telephone: (0221) 235533; telex: 08882341.

Iran Requests Literature For Preparing Specifications

The U.S. Embassy in Tehran is urgently seeking catalogs, sales literature, and quotations for modular concept vocational training equipment as well as for audio-visual training hardware. This literature will be used to prepare specifications for equipment for an intermediate and upper skill-level vocational training center now being designed in Iran. The Government of Iran is attempting to standardize equipment in a series of training centers, of which this will the first. This would provide suppliers with possible sales opportunities beyond the single center.

Catalogs and sales literature relating to equipment for training in the following skill areas are sought: metalworking (machine, sheet, welding); construction (masonry, carpentry, plumbing, heating, air-conditioning, refrigeration); electricity/electronics (installation, appliances, motors); automotive/motor vehicle (trucks, diesels, agricultural machines); audio-visual equipment of all types. Firms should mail materials to: Ms. Lange Schermerhorn, Commercial Officer, American Embassy, APO New York 09295. A copy of the cover letter (including list of materials sent) should be mailed to: Ms. Cherie Loustaunau, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230.

Iran To Buy School Equipment

The Government of Iran intends to procure school equipment for 37 educational institutions of six types and levels in 31 sites located in 17 towns and villages throughout Iran. Such equipment must be in conformity with specifications drawn up and included in the tender documents, of which registered firms for the bid will receive a complete set. Write: Education Project Unit of the Plan and Budget Organization, 381 3rd Fl., Takhte Jamshid Ave., Tehran. Bid deadline is March 6.

Future Construction Abroad

MALAYSIA — Government intends to proceed with construction of **major road and bridge works** on Kuala Lumpur—Petaling Jaya Traffic Dispersal Scheme Contract Sections 3 & 4. Has applied for loan from IBRD, which will be applied to payment under contracts for this prequalification notice. Invitations to bid will be issued by end of March to qualified firms, and construction to commence in September. Invitations to bid will be for contract package (2) separately or combined, and will be sent only to those contractors who have been prequalified and whose interest has been registered with the government. Contractors now registered as Class A contractors with Public Works Dept., Peninsular Malaysia, and contractors from member countries of IBRD and Switzerland may apply for prequalification. Prospective international tenderers should consider possibility of associating with local contractor for purpose of bidding for project contracts. Expected approximate quantities for main items are: earthworks common—600,000 cubic yards; earthworks borrow—459,400 cubic yards; bridges—2,900 linear feet; R.C. retaining walls—4,000 cubic yards; culverts & drainage pipes—3,500 linear feet; pavement (base) 65,000 cubic yards; pavement (subbase)—81,800 cubic yards; shoulders—63,400 cubic yards; asphalt surface course—73,400 tons. Information and form of application must be obtained from Director General of Public Works, Peninsular Malaysia, Jalan Tun Ismail, Kuala Lumpur, prior to submitting offers. Closing date for application is March 15. Government will notify contractors who have successfully prequalified to tender for this work. OPIC.

SINGAPORE — Telecommunications Authority of Singapore (TAS), 4th Fl., Plaza Sq., 68 Orchard Rd., Singapore 9, has put into operation a **five-year development program** with capital investment over $395 million. A major proportion will go to develop, expand and upgrade, diversify and expand Singapore's international transmission links. Another submarine cable system is being considered for South China area, with Singapore as one of landing points. Bulk of purchase by TAS will be for underground telephone cables. Central office exchanges will form second largest product group, followed by central office equipment and subscriber/user premises equipment (PBX). Largest potential market for U.S. manufacturers of telecommunications equipment will be in area of electronic central office exchanges. TAS's long-term objective is to introduce Stored Program Control (SPC) exchanges into its telephone network. The first pilot SPC exchange is due to be operational by first quarter 1977 and a large-scale introduction of SPC exchange is planned by 1977/78. For the latter, tenders are expected to be called in early 1976. OPIC.

The Overseas Private Investment Corp. (OPIC) offers political risk insurance to U.S. construction firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's construction insurance program, write Information Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-1854.

ECUADOR—Development of Ecuador's commercial fishing industry will entail expansion of the fishing fleet, construction of new fishing port(s), establishment of training school for fishermen, expansion of fish processing capacity, and related projects. Government's 5-year plan calls for investment in this sector of $92 million. World Bank has provided loan of $5.3 million. Feasibility studies for general development of commercial fishing sector were awarded to CISCYCA-Scandiaconsult; the U.S. firm Inter-Oceanic Factors is subcontractor for the part of studies dealing with establishment of school for fishermen. Feasibility studies for installation of shipyard are being conducted by the U.S. firm, Parson, Brinckerhoff, Quade and Douglas. Potential trade opportunities include: fishing boats and equipment; fish processing and packing equipment. Primary government agency is: Subsecretaria de Recursos Pesqueros, Ministerio de Recursos Naturales y Energeticos, Santa Prisca 223, Quito.

GREECE — Ministry of Coordination, General Directorate of Public Investment, 13 Xenophontos St., Athens, announced that IBRD will contribute $30 million to Greece's **road construction program.** Of this, $20 million will partially finance improvement works on the Patras-Pyrgos-Olympia road in Western Peloponnesus, $7 million will be used in connection with the Greek Government's road maintenance program on the basis of a study prepared by the Italian consulting firm S.A.U.T.I., and about $3 million will go for technical assistance. OPIC.

THAILAND — Construction on **Chiang Mai Airport Expansion Project** is scheduled to begin in 1976, including resurfacing, extension and widening of runway, new taxiway and apron, air cargo terminal, water supply and electrical distribution systems, and radio communications building. Tenders for navigational and radio communications equipment should be issued in 1977. Total estimated cost is $5 million. Interested firms may write to: Decha Nokkheo, Dir., Construction & Maintenance Div., Department of Civil Aviation, Ministry of Communications, Thung Mahamek, Bangkok, Thailand. OPIC.

ECUADOR — Agricultural development projects include increased farm mechanization and crop storage facilities. Estimated cost of projects could reach $400 million. Potential trade opportunities include: agricultural machinery and equipment; grain handling, drying, and storage equipment. Primary government agencies are: Banco Nacional de Fomento (BNF) Ante 107 y 10 de Agosto, Quito; Empresa Nacional de Almacenamiento y Comercializacion (ENAC), Guayaquil y Briseno, Quito; Ministerio de Agricultura y Ganaderia, Guayaquil 1740, Quito.

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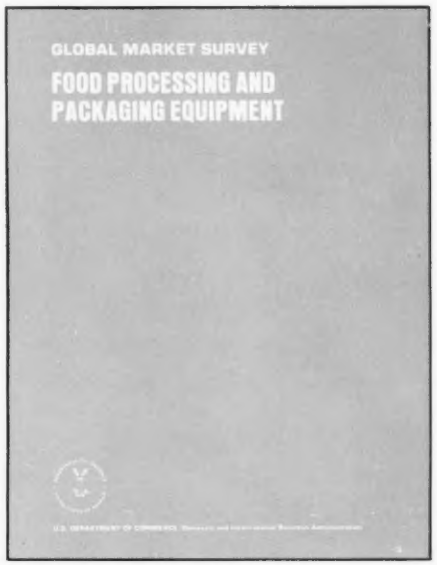

A new Global Market Survey—Food Processing and Packaging Equipment—has just been released by the Bureau of International Commerce, Office of International Marketing. The Survey identifies the best sales opportunities for your products in selected overseas markets. Contact the nearest District Office (see inside cover) to obtain your copy.

Right now there's proven foreign demand for a broad range of U.S.-made food processing and packaging equipment. The following list indicates the types of machinery covered in the Survey.

Food Processing Equipment, for—

- meat, poultry, and eggs
- milk and dairy products
- fruits and vegetables
- grain
- bakery products
- sugar and confectionery products
- fats and oils
- beverages
- fish and seafood
- miscellaneous and specialty food products

Food Packaging Equipment—

- forming, filling, sealing
- wrapping, packing
- marking, inspecting
- container/product/package preparation and handling

Countries covered by the Survey include:

- Australia
- Brazil
- Canada
- France
- Germany
- Iran
- Israel
- Italy
- Japan
- Mexico
- Netherlands
- Spain
- Sweden
- United Kingdom
- USSR
- Venezuela